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strategic force development, these methodological points for understanding overall force posture proved to be valid.

80. Raymond L. Garthoff, *Detente and Confrontation: American-Soviet Relations from Nixon to Reagan* rev. ed. (Washington, DC: Brookings Institution, 1994), pp. 963–64.
81. Former Soviet ambassador to the United States Anatoly Dobrynin recalled that, “On my trips to Moscow for consultations during that period [of the SS-20 decision] I never heard any member of the Politburo or our top generals discuss or even mention such political considerations. I did not see any Politburo or Foreign Ministry paper on the possible political opportunities or consequences of deploying our SS-20s. Military justifications were the only ones ever advanced. The Foreign Ministry barely participated in this Defense Ministry project until we faced a diplomatic confrontation. . . . This may be difficult to believe, but it was exactly what happened.” Anatoly Dobrynin, *In Confidence* (New York: Random House, 1995), p. 432.
82. For an overview, see Coit D. Blacker, *Hostage to Revolution: Gorbachev and Soviet Security Policy, 1985–1991* (New York: Council on Foreign Relations Press, 1993).
83. McGeorge Bundy, *Danger and Survival: Choices About the Bomb in the First Fifty Years* (New York: Random House, 1988) provides the most lucid summary of a large literature. For the particular points see pp. 548, 551, 568. Other valuable studies of force posture and weapons acquisition include Robert Art, *The TFX Decision: McNamara and the Military* (Boston: Little, Brown, 1968); Michael Armacost, *The Politics of Weapons Innovation: The Thor-Jupiter Controversy* (New York: Columbia University Press, 1969); Ted Greenwood, *Making the MIRV: A Study of Defense Decision Making* (Cambridge: Ballinger Publishing Company, 1975); Harvey Sapolsky, *The Polaris System Development: Bureaucratic and Programmatic Success in Government* (Cambridge: Harvard University Press, 1972).

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The Cuban Missile Crisis: A Second Cut

Most accounts of the missile crisis attempt to answer the central questions by comparing competing hypotheses, examining specific details of the deployment of missiles in Cuba or the blockade for clues to governments' goals and intentions. On the assumption that actors do what they intended, the details of actions taken and comparisons of the costs and benefits of the different options provide evidence about intent. Yet despite the best efforts in analyzing the behavior of the Soviet and American governments in this case, including our Chapter 2, anomalies and inconsistencies abound; “inexplicables” invite attention through the lens of organizational behavior.

As a point of departure consider the troublesome Jupiter IRBM missiles (15 in all) deployed to Turkey under Turkish control, along with their nuclear warheads, which would remain under U.S. control. Originally a highly publicized gesture of reassurance to allies fearful of the Soviet ballistic missiles being fielded in the late 1950s, the crude liquid-fueled Jupiters, along with F-100 fighter-bomber aircraft and their nuclear bombs, were by 1962 part of NATO's plans for defending Europe, specifically the eastern flank—namely Turkey.¹ These pieces on the chessboard greatly complicated the challenge President Kennedy faced in managing a confrontation with the Soviet Union over Cuba.

Unraveling the more important threads of this story requires entry into the arcane world of military acronyms or, as a colleague has named it, “acronymphomania.” The term refers to the practice prevalent in Washington, especially in the Pentagon, of using acronyms that many participants in discussions do not understand but are afraid to ask about lest they expose their ignorance. In the case of Turkey, the most important acronyms were: EDP and QRA. These stand for: Emergency (or European) Defense Plan and Quick Reaction Alert.

A vignette from the tapes of the missile crisis deliberations captures Kennedy as he discovers EDP. On October 21, in one of the few direct

presidential orders of those two weeks, he dictates that a special order be sent to Turkey giving commanders explicit instructions. They should *not* fire their nuclear weapons, *even if they were attacked*, unless and until they had a direct order from the White House. At the meeting on the morning of October 22, the Deputy Secretary of Defense reports that the Joint Chiefs of Staff object to sending out such a special order and thus that none had been sent.²

Kennedy repeats his instruction: "We may be attacking the Cubans, and a reprisal might come. We don't want these nuclear warheads firing without our knowing about it." Assistant Secretary of Defense Paul Nitze responds, explaining that the Chiefs thought such a special instruction "compromises their standing instructions." Eager to avoid conflict between the President and the Chiefs, Bundy and Taylor attempt to move the conversation along, observing that a reminder to commanders to be sure to check their standing instructions requiring presidential authorization for the use of nuclear weapons should suffice.

But then Nitze let the cat out of the bag. "They [the Joint Chiefs of Staff] did come back with another point, and that is: NATO strategic contact requires the immediate execution of EDP in such events." Many participants undoubtedly wondered: what do "strategic contact" or "EDP" mean? In most discussions, however, that much acronymphomania, especially from authorities who presumably know what they are doing, would strangle questions.

Not with President Kennedy, who persists: "What's EDP?" Nitze replies, "The European Defense Plan, which is nuclear war. So that means . . ." Kennedy interrupts, "Now, that's why we ordered that [special instruction] on that."

Backpedaling, Nitze tried to explain that the standing order did require presidential authorization. Yet Kennedy pushed to the deeper point. "They [in Turkey] don't know . . . what we know," he said. "And therefore they don't realize the chance there will be a spot reprisal. And what we've got to do is make sure these fellows *do* know, so that they don't fire them off and put the United States under attack. I don't think we ought to accept the Chiefs' word on that one, Paul."

Recognizing that he has dug himself into a hole, Nitze tries to stop and move on: "I've got your point and we're going to get to that." The Cabinet Room erupts in laughter. But sensing the president's skepticism, Bundy says, "Send me the documents, and I will show them to a doubting master." More laughter. In the end, an hour later, the instruction Kennedy wanted was sent. It said unambiguously, "make certain that the Jupiters in Turkey and Italy will not be fired without specific

authorization from the President. In the event of an attack, either nuclear or non-nuclear . . . U.S. custodians are to destroy or make inoperable the weapons if any attempt is made to fire them." The instructions were kept secret from the Turks, Italians, and other NATO allies.³

Kennedy's caution was well founded. While Nitze and the Chiefs were certainly right that presidential authorization was legally required in order to authorize any use of U.S. nuclear weapons, all—including Kennedy—knew that the president had, by earlier order, delegated some of this authority to NATO entities in the event of attack. There were at least two reasons for such predelegation. The first was that a Soviet nuclear attack might well kill the president and other leaders before they could issue orders for retaliation. So to keep the Soviets from being tempted by this scenario, launch authority was delegated in advance if such a contingency occurred. (Presumably, the Soviets should know about the arrangement, although it is not clear anyone told them.) The second reason for predelegation was that some allied governments, such as Germany, sought proof that all NATO nuclear weapons would be used under certain predetermined conditions, so that Soviet attack would be deterred by a more automatic response that left little to chance or whims of an American president. To address the first concern the Eisenhower administration had predelegated its nuclear use authority "in the event of a nuclear attack upon the United States," authenticated as such if possible. To address the second, Eisenhower had predelegated the authority to use nuclear weapons for the defense of U.S. forces based overseas if there was "grave necessity," subject to required consultation with allies.⁴

The Kennedy administration entered office wishing to tighten the predelegation of nuclear use authority. Bundy warned Kennedy that Eisenhower's procedures "have created a situation today in which a subordinate commander faced with a substantial Russian military action could start the thermonuclear holocaust on his own initiative if he could not reach you (by failure of communication at either end of the line)." Not a man given to hyperbole, Bundy warned Kennedy these were literally matters of "life and death." By 1962 the Kennedy administration had led efforts in the Alliance to put the release of nuclear weapons on less of a hair trigger and increase reliance on nonnuclear defenses. At a meeting in Athens in May 1962, NATO members "confirmed" fresh guidelines for the use of nuclear weapons. Although those guidelines have not been declassified, apparently President Kennedy had approved advance delegation of the use of NATO nuclear weapons to other persons and authorities only "in the clearly specified contingency of unmistakable large scale nuclear attack on NATO." We pre-

sume, but cannot confirm, that this is the only contingency of predelegation in NATO's Emergency Defense Plan. But, given the layers of prior directives, the murkiness of the plan itself to Kennedy, and the blurry delineation of the contingency (what is "unmistakable" or "large scale"), Kennedy's special orders were profoundly sensible.⁵

President Kennedy took some satisfaction in this triumph of presidential rationality over organizational routine. But simultaneously, another related sequence of events was unfolding, demonstrating how the number of important routines exceed the span of presidential control. In addition to the Jupiters, the U.S. maintained nuclear-armed aircraft in Turkey and other European states. As Scott Sagan's penetrating study, *The Limits of Safety*, reveals in detail, these nuclear-armed fighter-bombers were put on a nuclear Quick Reaction Alert (QRA) at military bases in NATO, including Turkey, on October 22. These QRA aircraft were kept fully armed, ready to take off within 15 minutes, and the NATO commanding general in Europe (a U.S. general, Lauris Norstad), had the authority "to launch his alert aircraft under positive control launch ("failsafe") procedures in the event that tactical warning of an attack was received."⁶ At the White House meeting just described, no one mentioned QRA. So these aircraft, which presented a threat of escalation identical to the one Kennedy had pinpointed with his special order on the Jupiters, escaped the special orders and remained covered by standing authorizations for potential nuclear use.

Moreover, in a subsequent review of the safety of the arrangements at the time, the commander of the squadron in Turkey recalled that nuclear safety was "so loose that it jars your imagination. . . . We loaded up everything [including nuclear bombs], laid down on a blanket on the pad for two weeks, planes were breaking down, crews were exhausted." He did not think anyone would do anything unauthorized with their nuclear-armed aircraft, but "in retrospect, there were some guys you wouldn't trust with a .22 rifle, much less a thermonuclear bomb."⁷ None of these nuclear weapons had encoded locks—"permissive action links"—that subsequently became routine as essential protection against accidental or unauthorized use.

The nuclear QRA readiness of NATO fighter-bombers in Turkey and across Europe provide yet another odd twist—one that would have puzzled and worried Soviet intelligence analysts had they known of it. As Sagan's analysis details, while U.S. strategic forces were brought to a higher level of alert on the day Kennedy announced U.S. discovery of the Soviet missiles in Cuba, Europe posed a distinct problem. General Norstad, NATO and U.S. commander of forces on the continent, and a veteran of Berlin crises, was appropriately concerned that

NATO preparations not alarm the Soviet-led alliance, the Warsaw Pact. At a meeting with British prime minister Harold Macmillan, Norstad agreed "that NATO forces should *not* be placed on DEFCON 3 alert and so advised the Joint Chiefs of Staff." A veteran of World War I, the British prime minister recalled vividly the ways in which mobilization plans had pushed Europe along the path to that war. His diary entry for October 22 recounts: "I said that we would *not*, repeat *not*, agree to a (NATO alert) at this stage. N [Norstad] agreed with this and said that he thought NATO powers would take the same view. I said that 'mobilization' had sometimes caused war."⁸

Kennedy was impressed with Norstad's good judgment.⁹ Nonetheless, as Sagan demonstrates, even Norstad's orders did not suffice to prevent the U.S. Air Force commander in Europe from complying with the wishes of his Air Force superiors in Washington and doing everything he could to increase the readiness of his aircraft for nuclear combat, including placing a large number of planes on nuclear Quick Reaction Alert.¹⁰

Had events followed the path President Kennedy feared—the U.S. attacks Soviet missiles in Cuba; the Soviets attack American bases in Turkey; U.S. forces there respond by launching nuclear-armed missiles or aircraft—historians sifting through the rubble might find the cause of the conflagration in the clash of national interests and large purposes.¹¹ Yet the events outlined above, which arise principally from the programs and routines of the large organizations that constitute governments, typically get short shrift in accounts of important events. In contrast, this chapter attempts to focus on the organizationally-determined features of the missile crisis that provided the drumbeat to which the actors marched.

From this perspective, we focus once again on three central events: (1) deployment of Soviet offensive missiles in Cuba; (2) imposition of a U.S. blockade of Cuba, and (3) withdrawal of Soviet missiles from Cuba. When the tentative hypotheses of organization theory are used to sift the available information, the results are suggestive.

DEPLOYMENT OF SOVIET MISSILES IN CUBA

The Soviet Build-up in Detail

Most explanations of the placement of Soviet missiles in Cuba focus on several of its salient characteristics. For example, the size of the Soviet deployment and the simultaneous emplacement of intermedi-

ate-range ballistic missiles (IRBMs) and medium-range ballistic missiles (MRBMs), some analysts argue, exclude an explanation of the action in terms of Cuban defense. But this behavior supports the hypothesis that the Soviet objective was a rapid buildup of missile power, since a nation with this objective would have reasonably chosen to install a large number of both MRBMs and IRBMs. Similarly, the relative weakness in total Soviet strategic nuclear forces invites the conclusion that Soviet nuclear weapons in Cuba were meant to rectify the strategic balance and thereby deter the American threat, for example to use nuclear weapons in defense of Berlin.

A full account of the Soviet construction of missiles in Cuba includes many details that do not seem consistent with either of these hypotheses. Careful examination of these puzzling features suggests that specific characteristics of Soviet actions in Cuba in September and October 1962 should not serve as a principal guide to Soviet intentions.

American sources and newly available material from the Soviet Union now permit the construction of a detailed series of snapshots of the Soviet arms buildup that culminated in the conversion of Cuba into a major strategic missile base.¹² The Soviet government decided to give arms to Cuba in the fall of 1959. In early 1962, there was a lull as Soviets and Cubans discussed the next phase of military assistance. The United States observed that Soviet dry-cargo arriving in Cuba averaged only fifteen per month for the first half of 1962, and that the ships carried few weapons.

Though the U.S. did not know it, the Cuban requests for conventional weapons to aid their defense were approved by the governing Soviet Presidium in April 1962. In their path-breaking work, Alexander Fursenko and Timothy Naftali note that the Presidium chose to divert surface-to-air missiles (SAMs) already promised to Egypt to Cuba instead. They identify the separate decision-making process initiated by Khrushchev that six weeks later produced the Presidium's decision to send nuclear missiles to Cuba.¹³ Castro had not asked for the nuclear missiles, but was persuaded to accept the Soviet decision. For the Americans, the two separate decisions produced a single set of organizational outputs that became visible during the summer. In late July, Soviet shipments of arms resumed at a markedly increased pace. Thirty-seven Soviet dry-cargo ships arrived at Cuban ports during August, and some twenty of these carried arms shipments. By September 1, Soviet equipment in Cuba included surface-to-air missiles, coastal defense "Sopka" cruise missiles (similar to unpiloted jet aircraft), patrol boats that could fire

conventional antiship missiles, more than 5,000 Soviet technicians and military personnel, and large quantities of transportation, electronic, and construction equipment.¹⁴

The first Soviet nuclear ballistic missiles reached Cuban soil on September 8. Measuring 59.6 feet in length (without the 13.7-foot nose cone), and 5.4 feet in diameter, the MRBMs were secretly transported to Cuba beneath the decks of Soviet ships that had been designed with extra large hatches for lumber trade. The *Omsk*, which brought the first MRBMs, docked at the port of Mariel and was followed by a second large-hatch ship, the *Poltava*, on September 15. Thereafter, additional MRBMs, missile trailers, fueling trucks, special radar vans, missile erectors, materials for building nuclear warhead storage bunkers, and other equipment related to the strategic missiles arrived and were rushed to construction sites (some of which had been prepared in advance). Similar equipment for IRBMs was also arriving. Nor were the September shipments restricted to nuclear ballistic missiles. Throughout that month, the steady stream of Soviet ships brought IL-28 medium jet bombers, as well as the first of the Soviets' most advanced jet fighters (MiG-21s), and additional SAMs, cruise missiles, and patrol boats. The Soviet Union acknowledged publicly only that it had agreed to help Cuba meet the threat from "aggressive imperialist circles" by delivering technicians for training Cuban servicemen and "armaments and military equipment . . . designed exclusively for defensive purposes." There was no need, Moscow proclaimed, to send its nuclear weapons to other countries.¹⁵

October shipments brought more of the same at an accelerated pace, until October 24—the day on which the American quarantine of Cuba began. Unknown to the U.S., nuclear warheads for the MRBMs arrived on October 4, along with dozens of nuclear warheads for the Sopka coastal defense cruise missiles, 6 nuclear bombs for the IL-28 aircraft, and 12 nuclear warheads for short-range tactical nuclear rockets.¹⁶ Just before the blockade took effect, 24 more nuclear warheads for the IRBMs arrived in Cuba. Indeed, a large number of dry-cargo ships, including those carrying the IRBM missiles themselves, were moving toward Cuba when the blockade was announced.

The original plan required all the ships to be en route for Cuba by October 20, and arrive at the island and deliver their cargo before the American congressional elections.¹⁷ Khrushchev and Gromyko had repeatedly told Kennedy and others that the Soviet government would force a settlement of the Berlin crisis after these elections.

Even without the arms carried on the interrupted shipments, the catalogue of military equipment on the island included:

1. *MRBMs*. There were six field sites for the mobile MRBMs, 4 located in an area near San Cristobal, 50 miles southwest of Havana, and 2 located near Sagua la Grande, 135 miles east of Havana. Each of the sites included 4 launch positions, mobile ground-support equipment, transportation equipment for bringing the warheads to the launch sites from separate nuclear warhead storage facilities, and extra missile shelter tents, indicating that the Soviets intended to have a refire capability for each of their launching positions. In total, 6 sites, each with 4 launchers, each pair of launchers with an extra missile, meant 36 MRBMs, plus 6 more decoy versions to deceive possible American attackers (or for use in training), for a total of either 36 or 42. The MRBMs had ranges of 1,100 nautical miles. All of the missiles reached Cuba. They were divided among 3 missile regiments.
2. *IRBMs*. Three fixed, concrete sites for the heavier IRBMs were observed under construction and a fourth was about to be started. Two of the sites, for one missile regiment, were located at Guanajay near Havana. The others, for another missile regiment, would be at Remedios (in an earlier stage of construction). At each of the sites, 4 launch positions, concrete control bunkers, nuclear weapon transportation, and missile-servicing facilities were under construction. There would have been 16 launchers, with an extra missile for each pair, amounting to a total of 24 IRBMs. The range of Soviet IRBMs was up to 2,200 nautical miles. Though the related equipment for the missiles was present, and the sites were under construction, no IRBMs reached Cuban soil. Khrushchev had also planned to establish a strategic naval base for Soviet submarines carrying ballistic missiles, along with a base for a squadron of surface warships, but he suspended all of the naval portion of the deployment in September after Kennedy's public warnings, for fear that the naval preparations would be harder to conceal from the anxious Americans. After the crisis, the Americans suspected that other areas were being prepared for deployments of more missile units if the Soviets had been able to expand their base.¹⁸
3. *IL-28s*. As many as 42 unassembled IL-28s [NATO designation Beagle] bombers arrived at two Cuban airfields, San Julian and

- Holguin. The jet bombers had a capability of delivering nuclear or nonnuclear payloads of 6,000 pounds to a range of 600 nautical miles and returning to their home base. Only 7 of the planes were fully assembled by the end of the crisis. American Intelligence suspected that nuclear bombs might be available for these planes, and it was right. In September, responding to Kennedy's public warnings about the consequences of deploying nuclear arms to Cuba, Khrushchev had approved quick delivery of 6 nuclear bombs that could be dropped by the aircraft.¹⁹
4. *SAMs*. Twenty-four SA-2 sites ringed the isle of Cuba in a tight-knit perimeter air defense, organized into 2 air defense divisions of 3 regiments each. Each site consisted of 6 launchers (for a total of 144), each with a missile in place and three reload missiles available. The anti-aircraft missiles had the capability to strike targets at altitudes of up to 80,000 feet and a horizontal range of 30 nautical miles. An extensive radar system was deployed to support the air defenses. In addition, large numbers of anti-aircraft artillery were installed for low-level air defense.
 5. *Cruise Missiles*. At least 4 coastal cruise missile sites were established. Located near key beach and harbor areas, would deploy a total of 16 34-foot launchers, guidance equipment, and 5 missiles for each launcher, for a total of 80 missiles. The Americans never knew that nuclear warheads were delivered for many, if not all, of these missiles. With a range of up to 40 nautical miles, cruise missiles posed a threat to ships and amphibious landings.
 6. *Tactical Nuclear Missiles*. In September, again as part of his reaction to Kennedy's warning, Khrushchev had added 12 Luna tactical nuclear missiles in three detachments divided among his ground forces. These were called FROGs in the West, for Free (unguided) Rocket Over Ground. They had a range of about 20 miles. The missiles were not part of the normal order of battle for the ground units sent to Cuba and were added later, by Khrushchev's personal order, to provide battlefield nuclear defenses against a possible American attack.²⁰
 7. *KOMAR Guided Missile Patrol Boats*. At least 12 high-speed KOMAR patrol boats were operating from Mariel and Banes. Weighing 66 tons and measuring 83 feet in length, each boat featured 2 20-foot cruise type missiles with a range of 10 to 15 nautical miles.

8. *MiG-21 Aircraft.* Forty-two of the latest Soviet high-performance MiG-21 aircraft were delivered to Cuban airfields. Equipped with air-to-air missiles, the interceptors were capable of speeds of up to 1,000 knots at 40,000 feet. During the crisis, the Americans realized that a large portion of the aircraft were being flown by Soviet pilots. More than 40 of the earlier model MiG-15s and MiG-17s had been sent to Cuba prior to the July buildup.
9. *Soviet Troops.* A full Group of Soviet Forces, analogous to the Groups of Forces stationed in Eastern Europe, was dispatched to Cuba as part of the missile decisions in May 1962. Four heavily equipped motorized rifle regiments were deployed with battalions of the most modern tanks and assault guns in the Soviet arsenal. In total, there were more than 40,000 Soviet soldiers and technicians in Cuba when the crisis broke, and thousands more had not yet arrived. The Soviet ground forces were deployed at 4 major installations (at Artemisa and Santiago de las Vegas in western Cuba, near Remedios in central Cuba, and near Holguin in eastern Cuba).

Transportation of the armaments and related equipment required more than 100 shiploads. Construction and protection of them required more than 40,000 Russians. There can be no doubt that the Soviets were engaged not only in a provocation, but also in a truly massive military buildup in Cuba. Presumably, coordination of these activities involved a plan calling for the introduction of less provocative defensive weapons first, followed by a second stage in which offensive weapons would arrive. (Both sides understood that the American term "offensive weapons" at a minimum included nuclear missiles.) An analyst might expect the available evidence about the Soviet action to be a source of clues to Soviet plans and thus to their intentions in embarking on this adventure.

Careful examination of the panoply of Soviet actions, however, raises many more questions than it answers. As more information about the Soviet side has become available, the puzzles have grown. Perhaps the most striking question is why the Soviets seemed so insensitive to the possibility of U-2 observance of their operation. Having captured one of the high-altitude planes in 1960, the Soviets could harbor no illusions about the U-2's capability. Thus, as the American photo reconnaissance expert Amron Katz has argued, the

Soviet Union "could not have expected that their missile sites in Cuba would escape detection, given the likelihood of closely spaced surveillance."²¹ If they were to avoid being found out, they would have to anticipate U-2 flights and design the operation accordingly. But consider what they actually did:

1. *SAMs.* The SA-2s the Soviets shipped to Cuba were very sophisticated anti-aircraft missiles. SAMs of this variety had downed an American U-2 over the Soviet Union in 1960 and another over Communist China on September 9, 1962. (One of the SAMs based in Cuba was to shoot down a U-2 on October 27.) The perimeter defense that the Soviets were installing could therefore have effectively denied the U-2s free air space over Cuba. The SAM network was by October 9 in place and apparently ready. The original deployment plan had actually been changed during July to ensure the air defenses were in place first. Khrushchev, at least, wanted to be sure that any snooping U-2 flights could be shot down. But when a U-2 flight first overflew the MRBM sites, on October 14, no action was taken against it. The Americans wondered if the SAMs or their radars had even been operational. As Sorensen recalled, "Why the Soviets failed to coordinate the timing is still *inexplicable*."²² Yet they had coordinated the timing. So why didn't they try to shoot down the U-2?
2. *Camouflage.* Construction of Soviet MRBM and IRBM sites in Cuba proceeded with little attempt at camouflage. Arthur Lundahl, the head of the National Photographic Interpretation Center in Washington, and the leader of the team that spotted the missiles, wondered "why would the Soviets leave the missiles and all the support equipment exposed in an open field in such a manner that they would certainly draw a photo interpreter's attention?" The Soviet government knew well what American cameras could do.²³ In the light of their awareness of U-2 overflights, this behavior seems so puzzling that some analysts have been driven to the hypothesis that the Soviets must have wanted the United States to discover the missiles during construction. Such a hypothesis is inconsistent with earlier Soviet behavior, and it neglects the further fact that after the United States publicly disclosed what the Soviets were doing, they rushed to camou-

flage the sites. As Robert Kennedy recalled, "It was never clear why they waited until that late date to do so."²⁴

3. *Construction Pace.* "There has been almost universal agreement on the logistic efficiency of the Soviet operation [in constructing MRBMs]." The speed at which the Soviets were able to install the missiles was indeed "remarkable."²⁵ Still, the Soviets did not bring in lights and begin round-the-clock construction until after the United States announced the blockade. If at the outset they had restricted construction activity to hours of darkness and camouflaged the sites during the day, they might have escaped detection.
4. *Missile Sites.* The SAM, MRBM, and IRBM sites constructed in Cuba were built to look exactly like the SAM, MRBM, and IRBM sites in the Soviet Union. On October 16, CIA Acting Director Marshall "Pat" Carter briefed Kennedy and his advisers on how the deployment pattern "is identical, complexes about five miles apart, representative of the deployments that we note in the Soviet Union for similar missiles." Soviet SAM sites were placed in the established Soviet pattern for defense of strategic missile installations.²⁶ This made it possible to interpret the Soviet construction activity; American analysts had photos of similar missiles and deployment patterns in the Soviet Union and even a manual of Soviet missile construction, which Soviet Colonel Oleg Penkovsky had delivered to United States intelligence.²⁷

A second set of questions is raised by various inconsistencies in the Soviet operation. On the day he confirmed his team's discovery of the missiles, Lundahl noted a major puzzle. "Why had the Soviets employed extensive security in transporting the missiles from the USSR to Cuba yet, once in the field, there were no security procedures to avoid overhead observation?" For example, consider the Soviet behavior in the matter of camouflage. Only after the U.S. announced the discovery of the missiles and announced the blockade did the Soviets begin camouflaging what had already been publicly identified. Similarly, after the United States had announced the blockade, Soviet troops at San Cristobal began constructing permanent barracks, while at San Julian the Soviets continued unpacking and assembling IL-28 trainers before assembling the combat aircraft. But the most puzzling inconsistency of all is the simultaneous construction of MRBMs and IRBMs. Given the importance of finishing

the MRBMs quickly, how can one explain the effort to install the more expensive, less salvageable, and more conspicuous IRBM sites before the MRBM sites were completed?

A third quandary stems from the strategic character of the nuclear missiles. For what contingencies were these missiles intended? While American strategic superiority would have made any Soviet first strike desperate or hopeless, could the missiles have been used in a retaliatory strike? All of the sites were "soft" and therefore extremely vulnerable to U.S. attack. The Soviets made no effort to harden them; nor were they constructed with an eye to future hardening. Still more puzzling is the fact that the Soviets transported an extra ballistic missile for each pair of launchers. Presumably they intended to be able to reload and fire off a second nuclear salvo. But under what circumstances could an opportunity for refire be imagined? In any contingency, the Soviets would be fortunate to avoid American preemption and launch a single salvo from the missiles. At that point the United States would undoubtedly destroy the sites before there was any possibility of reloading and refiring. So the reload missiles, which constituted a third of the original deployment, were essentially useless. Indeed, there seems only one imaginable contingency in which the Soviets might have had an opportunity to fire a second missile from the soft sites. If, prior to American discovery of the missiles, the missiles were launched against the United States in a first strike, the second missiles might have been loaded onto the launchers and fired in a second salvo. Yet the likelihood that prior to American discovery of the missiles, or Soviet revelation of their *fait accompli*, they would undertake such a surprise attack seems infinitesimal.

Fourth, the Soviet government's most convincing defense of its decision to send missiles to Cuba argued that these weapons would deter any use of nuclear weapons by anyone. Specifically, it would deter the Americans from escalating any local conflict in Berlin or in Cuba to the use of nuclear weapons. As Khrushchev explained to the Presidium, the missiles "have one purpose—to scare them [the Americans] to restrain them . . . to give them back some of their own medicine."²⁸ Yet the Soviet government had nonetheless deployed its weapons in a way that greatly increased the chance that nuclear weapons might be used, and that they would be used first by Moscow, not Washington. To defeat an American invasion of Cuba, Khrushchev had ordered that Soviet forces be armed with nuclear coastal defense missiles and battlefield tactical nuclear weapons. But this action would not have deterred an American invasion, since the U.S. never knew the coastal defense mis-

siles had been deployed with nuclear warheads, and only discovered the tactical nuclear weapons late in the crisis. Standing Soviet plans and doctrine would have called for use of the nuclear weapons against American invaders. The coastal defense missiles were meant for launch against invading vessels offshore; the tactical nuclear weapons were intended for use against concentrations of troops after they had landed. The only munitions available in Cuba for either system were nuclear.

Fifth, the behavior of the Soviet military personnel in Cuba seems mildly schizophrenic. Though they made considerable efforts to disguise their identity (for example, troops did not wear uniforms but rather appeared in slacks and sport shirts), a number of signals revealed their presence. The "young, trim, physically fit, suntanned" technicians who arrived in civilian clothes at Cuban docks formed in ranks of fours and moved out in truck convoys.²⁹ An even more startling signal was noted by Representative Mahon in the House Appropriations Hearing. "It seems a little singular," he observed, "that these units would display large insignia descriptive of them in the area of the barracks and concentrations of men. Does this mean anything to you?" In fact, Soviet units decorated the area in front of their barracks with standard Soviet ground force insignia representing both infantry and armor forces, elite guard badges, and even a Red Army Star.³⁰ Similarly, the positioning of military equipment throughout the operation left not only telltale signs but also attractive targets, for example the MiGs. As Robert Kennedy mused, "The Russians and Cubans had inexplicably lined up their planes wing tip to wing tip on Cuban airfields, making them perfect targets."³¹

Organizational Implementation

Some of the anomalies in the Soviet buildup must be traced to errors and blunders of specific individuals in the Soviet Union. The Soviet team that persuaded Castro to accept the missiles also reported back to Khrushchev on the feasibility of the plan. They told him they thought the forests or palm trees in Cuba would conceal the missiles. This assertion later drew particular scorn from Soviet military analysts.³² But many of the problems and seeming contradictions become considerably less puzzling if one assumes the perspective of an observer of the outputs of Soviet organizations. Information about the organizations and their specific functions is sparse in the public literature. But informed speculation is revealing.

The final decision to put missiles in Cuba was made in the Presidium, but the details of the operation—that is, the path from the general deci-

sion to the actual appearance of operational missiles in Cuba—were delegated to appropriate Soviet organizations. Standard Soviet operations, particularly where nuclear weapons are involved, imposed secrecy beyond anything approached in the American government. Thus, each organization's tendency to "do what it knows how to do" was reinforced by a lack of information about the activity of other organizations and the impossibility of an overview of the whole operation.

The clandestine manner in which the missiles were shipped, unloaded, and transported to construction sites was a major organizational success, eluding all methods of detection until the missiles were deployed in the field. This part of Operation Anadyr was planned by a specially created subunit of the operations branch of the Soviet General Staff, working closely with Soviet intelligence agencies. Various routines for total secrecy were devised, as were several procedures of "disinformation," to deceive inquiring eyes.³³ Cubans were almost completely excluded from sensitive port areas and bases. But once the weapons and equipment arrived in Cuba, another organization took over—namely the operational command for the Group of Soviet Forces in Cuba.

The Group of Forces was commanded by General Issa Pliyev, an artillery officer who had led the North Caucasus Military District. The Strategic Rocket Forces branch of the armed forces had wanted one of its own generals to be in charge (since it provided the ballistic missile units) but Khrushchev wanted Pliyev because if Pliyev's identity were discovered (he traveled to Cuba with a false passport) it would not give away the missile secret. Even more important, Khrushchev could trust Pliyev personally. Both Khrushchev and Defense Minister Malinovsky had long been friends with Pliyev, and the general had just led an operation using machine gun fire to suppress an uprising of rebellious citizens in Novocherkassk. Pliyev's deputy and his headquarters staff, however, were all drawn from the Strategic Rocket Forces.

One consequence, however, was that Pliyev, the old artillery veteran, got along poorly with his deputy and his staff, creating a sullen atmosphere of accusations and bickering. Once they arrived in Cuba, the subordinate units, which came from different branches of the armed forces, reverted as quickly as they could to their operational programs and routines for doing their jobs. They soon found that their original instructions had to be changed or ignored. "What had looked neat and logical on maps in Moscow frequently turned out to be unworkable on the ground."³⁴

The missile regiments came from the Strategic Rocket Forces. Never had an MRBM or IRBM left Soviet soil. Few, if any, of the men assigned to install the missiles had traveled outside the Soviet Union. Soviet strategic rocket teams came with their equipment (including the trailer-erectors on which the MRBMs had been hauled through Red Square in the Moscow parades), their materials (including a variety of distinctive support vehicles and systems for providing missile fuel and electricity), and their know-how to an unfamiliar island 8,000 miles away.

At the sites, each team did what it knew how to do—emplace missiles—literally according to the book. Each MRBM site consisted of four launchers, because an MRBM site has four launchers. At each IRBM site, the two pairs of identical launchers were separated by 750 feet, because that is the established distance between IRBM launchers. An extra missile was transported for each pair of launchers because MRBM launchers have a refire capability that was part of their usual deployment in the western Soviet Union, aimed at Western Europe. No attempt was made to harden the missile sites, not because of any intention to launch a first strike, but rather because no Soviet missile sites had ever been hardened. Soviet strategic rocket forces did not harden sites in the Soviet Union and had no equipment or procedures for such an operation. Nuclear warhead storage bunkers were constructed with fixed dimensions and requisite material, according to established specifications. Otherwise they might not have passed standard inspection tests for storage bunkers.

Other instances of organizational behavior were more subtle. The failure of camouflage made it certain that if a U-2 flew over the site the U.S. would discover the missiles. Initially, it had been hoped that the missiles could be concealed in Cuba's many wooded areas. During the early days of the missile crisis, Kennedy and his aides also feared that missiles might be hidden in the woods, defeating a possible air strike. But both Soviet hopes and American fears were misplaced. Field organizations knew better. As General Anatoli Gribkov explained:

[Presidium member] Sharaf Rashidov had reported to the Defense Council that Cuba's forests would provide just the needed cover for our missiles. Only someone with absolutely no competence in such technical matters could have reached such a conclusion. A missile-launching complex is not easily disguised. The area is filled not with slim, upright rockets but with multiple command and support buildings, rows of fuel trucks and tanks and hundreds of meters of thick cable—all surrounding the large concrete slabs that anchored the missile launchers. Once the heavy equipment had been moved in, such an installation—but not the roads

built to it—could be hidden from ground-level view. From above, however, it could and did stick out like a sore thumb.

Cuba's climate, moreover, made wooded areas unsuitable places to hide Soviet troops and arms. The island's forests were generally sparse, consisting of a few clusters of palm trees or a thick undergrowth of bushes where the air barely moved and the intense, moist heat was unbearable. Instead of providing welcome shade during daylight, the woods acted like a sponge, soaking up atmospheric moisture and raising the humidity debilitating for men and machinery alike. On the eastern part of the island, moreover, the forests held many poisonous guayaco trees. Merely touching their bark raised blisters on the skin.³⁵

Even if operational units had orders to keep their activities hidden, they also had orders to get the job done and have all military forces ready for action by early November.

Despite Gribkov's account, more camouflage efforts were possible, and were initiated *after* Kennedy revealed to the world that the missiles had been discovered (and after Gribkov had arrived in Cuba as the General Staff's representative to check on Pliyev's progress). A few days after Kennedy's speech, photo interpreters were disturbed to notice that "in addition to using trees, shrubbery, and bushes to conceal missile equipment, various forms of camouflage were also being used. Garnished netting had been erected over some of the missile support equipment. Plastic camouflaged sheathing appeared over a number of the launchers and erectors. The canvas covers of some of the missiles and missile transporters had been painted with disruptive patterns." Much more work was plainly being done at night. The efforts could not entirely conceal the sites, but they did obscure them. Kennedy wondered aloud to CIA chief John McCone, "If we hadn't gotten those early pictures [before they were camouflaged], we might have missed them."³⁶ If so, the U.S. deliberations would have been decidedly different.

Gribkov's excuse for not putting up better camouflage is therefore only part of the story. A serious effort to camouflage the operation was possible. But the units constructing the missiles had no routine for camouflage, having never camouflaged construction activity in the Soviet Union. Moreover, the command had two competing goals: to be ready for action and to conceal its activity. The field organization had to choose which had priority. Camouflage would have created extreme discomfort in the tropical heat for people working under the netting or plastic covers. Working only at night, with great stealth, would have slowed the pace of construction and put the work even further behind schedule. An intelligence agency would likely have

made a different choice, but a field organization in the business of deploying missiles could be expected to focus first on completion of preparation for possible combat, particularly when that directive came with a date attached. Thus the troops in the missile regiments did what they knew how to do, sometimes to the point of exhaustion, and without nonroutine help from the other regiments in Pliyev's command. Pliyev's deputy "was often out on the tennis courts with [the naval commander], both playing as though they had not a care in the world."³⁷ Only the shock of American discovery (and the General Staff inspection team) produced extraordinary changes in organizational behavior.

The SAMs puzzle is even more difficult. There is direct evidence that Khrushchev worried specifically that U-2 overflights might discover the missiles. In July, as his scores of ships began departing for Cuba, Khrushchev secretly requested that Kennedy, as a gesture of peace, stop overflights of Soviet ships in international waters. Kennedy agreed, if Khrushchev would leave the Berlin problem alone. Khrushchev pocketed Kennedy's agreement (but deflected the Berlin request). In addition Khrushchev also made sure that SAMs would go to Cuba first, to be ready to protect Cuban skies against overflying U-2s.³⁸

When Gribkov arrived in Cuba to inspect work, Pliyev had some bad news: The missiles had probably been discovered by the Americans. A U-2 had flown over the areas where the missiles were deployed on October 14. Soviet air defenses had observed the overflight but had taken no action. (There had been more overflights on October 15 and 17 which presumably were observed, too.) The date was now October 18.

Why no action? SAMs were operational. But, Gribkov recalled, "Moscow had sent them to Cuba to defend against air attack, not aerial espionage. With no invasion thought imminent, the SAM commanders were not even allowed to use their radars to track the spy planes overhead." Gribkov had known about the special July orders to get SAMs ready in Cuba, but he thought they had come from his more immediate superior, Defense Minister Malinovsky,³⁹ and he apparently had no inkling of Khrushchev's reported desire to use the SAMs against prying U-2s. We can presume Pliyev was equally ignorant. More to the point, it seems that the standing orders to the air defense units told them to fire only if attacked, perhaps to avoid provoking any incident or unwanted attention before everything was ready. The standing orders were undoubtedly written by someone

who was not present when Khrushchev expressed his concerns, so the Soviet leader's intentions never entered the operational directives to the relevant implementing organizations.

An alternative hypothesis is that the Soviet air defenses suspected a U-2 overflight without being sure. Confronting an uncertain situation where the appropriate response was unclear, the organization took no action.

There is evidence that, on October 14, Pliyev suspected that the missiles had been discovered. On October 18, Gribkov was told about this suspicion. But there is no evidence that the "Soviet government" learned of the suspicions. Soviet foreign minister Andrei Gromyko met with Kennedy on October 18 and reported back gloatingly that the Cuban situation was "completely satisfactory." Gromyko saw no sign that the Americans knew what was going on, and confidently predicted that "a USA military adventure against Cuba is almost impossible to imagine."⁴⁰ The Kremlin did not start seriously worrying about American discovery of the missiles until October 22, when they heard the news bulletins advertising Kennedy's forthcoming television address to the nation.⁴¹

Why did Moscow not know what Havana knew? We can only guess. Naturally Pliyev would have considered such a report to be a testament of failure. He was visibly unhappy to see Gribkov. But the matter of the U-2 would have been too widely known in his headquarters to attempt concealment from Moscow's "inspector general." When Gribkov heard the news, there was an immediate round of fingerpointing about inadequate camouflage. Yet we have no evidence (yet) that Gribkov cabled the bad news home.⁴² Perhaps, he thought, or rationalized, that all this was just a suspicion. They had no proof that the Americans knew. So why report a suspicion that might end their careers? They had no orders covering the contingency. What orders they had, they had obeyed. For them, in their organizational position at the moment, that was apparently good enough.

Finally, we come to the matter of Soviet force structure, specifically the dispatch of nearly 100 tactical, or battlefield, nuclear weapons. They were readied for first use—which could initiate a nuclear war—though the whole deployment had been motivated by the desire to prevent a local conflict from escalating to the nuclear level. Certainly part of the explanation lies in the confused intentions of the Soviet leadership. There is evidence that Khrushchev and his colleagues thought about using the tactical nuclear weapons. On October 22, worried that Kennedy was about to announce an invasion of Cuba,

the Presidium actually drafted an instruction authorizing Pliyev to use the tactical nuclear weapons to repel it. Only after Malinovsky warned that the Americans might intercept the message and therefore use nuclear weapons first did the Kremlin step back to more conservative instructions directing Pliyev not to use the nuclear weapons without authorization from Moscow.⁴³

Yet until the message from Moscow arrived, "the tactical weapons were Pliyev's to deploy and, if he were cut off from contact with Moscow, to use as a last resort."⁴⁴ Imagine that the U.S. had chosen to launch a surprise air strike followed by an invasion. This option was supported by many senior officials in Washington—indeed, by Kennedy and most of his advisers during the first days of deliberation. In that case, it is quite possible that in the heat and chaos of battle—and in accordance with standing Soviet doctrine and guidance—Pliyev would have launched some of his battlefield nuclear weapons against the invaders. On October 26, acting on his own authority, Pliyev ordered the movement of a number of nuclear warheads closer to the missiles that would carry them. He then reported his move to his superiors in Moscow. Unsettled, the superiors sharply reminded Pliyev that he must wait for central authorization before using any weapons. They relied on his obedience. There were no technical safeguards to physically prevent nuclear use by the field units.

Until late in the crisis, the Americans did not even know that Pliyev had tactical nuclear weapons. The American "planners saw no sense in the island's defenders employing battlefield atomic weapons and thereby risking escalation."⁴⁵

As one analyzes the normal behavior of the organizations engaged, the performance becomes more plausible. The Sopka coastal defense cruise missiles had been nuclear-armed in accordance with standard Soviet military practice for their use in defending the Soviet Union or its neighboring allies. There is no evidence of top-level attention to or deliberation about the application of this practice to the Cuban deployment. The FROG or Luna tactical nuclear rockets and the nuclear bombs for the IL-28s reflected options proposed by the Ministry of Defense in response to Khrushchev's desire to get more nuclear weapons into Cuba, fast, after Kennedy issued his warning.

Why did the Soviet government not tell the Americans the weapons had been sent to Cuba, especially once Kennedy made his speech? Why not use the weapons to deter Washington, trying to avoid the dreaded scenario in which the weapons might be used? On October 22, Khrushchev contemplated announcing not only that the tactical nuclear

weapons were in Cuba, but also that they were being turned over to Castro and the Cubans, and that the Cubans would declare their readiness to use them against attack.⁴⁶ Fortunately, he reconsidered.

From the perspective of the Soviet military commanders, their mission was to fight and win battles. Why reveal weapons to an enemy, and spoil a nuclear ambush? Gribkov puts it bluntly: "Arcane theories of deterrence mattered less to us than practical questions of assuring our exposed troops the strongest possible armor against attack."⁴⁷

Observers of organizational output are familiar with persistence in established patterns, details of operations that follow from standard operating procedures, and oddities that become normal in specific cultures. Eventually, difficulties arise from old programs played out in new contexts, slips between semi-independent organizations, and complications stemming from leaders' attempts to force organizations to act contrary to existing goals. While minor modifications in organizational routines occur constantly, major organizational changes typically follow, rather than precede, major crises. (This was true in the Cuban case as well. After the crisis, the Soviet government reacted by taking many steps to tighten central command and control over nuclear weapons.⁴⁸)

Nevertheless, the political leaders who sit atop government organizations do make major decisions about *which* organizations shall play out *what* programs *where*. Often this means the performance of existing organizational programs in different contexts, a new combination of routines from several organizations, and even, occasionally, rapid changes in existing organizational programs. Furthermore, each organization consists of components with somewhat different operational goals. Political leaders choose among organizational components in seeking to realize their objectives. These points are illuminated by returning to the American side of the story.

IMPOSITION OF A U.S. BLOCKADE OF CUBA

The temptation to dismiss organizational oddities at the heart of Soviet deployment of missiles as something special to the Soviet Union should be resisted. Certainly, Soviet totalitarianism stretched normal behavior to extraordinary extremes in organizational life, as elsewhere. An ideology that imagined that the state could decide and control everything combined with underlying paranoia to make standard operating procedures more pervasive and more powerful factors

in Soviet behavior than in other societies. But the world about which Weber and Kafka wrote preceded Lenin.

Because information about the behavior and routines of American organizations in the missile crisis is so much more accessible, a review of the evidence uncovers more, and still more puzzling, grist for the analyst's mill. The vexing problems of Jupiter missiles, nuclear weapons, and QRA aircraft in Turkey have already been noted.

Another dimension of the story begins with another acronym: DEFCON 3. DEFCON is Pentagon-speak for Defense Condition, an elaborate system of programmed orders that specify the levels of readiness for war at which U.S. military forces are maintained. President Kennedy raised the worldwide alert status to DEFCON 3 on October 22, and subsequently to DEFCON 2 for strategic forces—just below the alert level that signifies imminent war. This alert constituted “the highest state of readiness for nuclear war that U.S. military forces have ever attained and the longest period of time (30 days) for which they have maintained an alert.”⁴⁹

Pursuant to President Kennedy's orders to increase the alert status, what happened? For example, how many nuclear weapons moved from one location or configuration to another? The answer: thousands. As Sagan summarizes the activity: Strategic Air Command (SAC) nuclear weapons on active alert jumped from 1,433 prior to the crisis to 2,952; alerted bombers from 652 to 1,475; ICBMs from 112 to 182; Polaris SLBMs from 48 to 112; and hundreds of QRA aircraft in Europe and in the Pacific area were loaded with nuclear weapons and readied for launch. Nuclear-loaded SAC bombers were dispersed to 33 civilian and military air bases across the U.S., to forward bases in Britain and Spain, and to airborne alert. On airborne alert, 66 aircraft flew daily across the Atlantic (or an equivalent route), refueled over Spain, and orbited over the Mediterranean from where they would, if ordered, follow attack routes into the Soviet Union. SAC B-52s “flew over 2,088 missions—flying 47,000 hours and 20 million miles with 4,076 aerial refuelings—during the crisis without a single plane crash.”⁵⁰

The objectives of this extraordinary alert were not only to be prepared for war, if that happened. It also signalled and made vivid American nuclear readiness and capacity. But procedures that allowed the U.S. to achieve these goals inescapably increased risks of provocation, accident, or other unintended consequences. This tradeoff is a recurrent theme of almost all of the huge organizational activities put in motion by the U.S. as the crisis intensified, beginning with the discovery of the missiles.

Organizational Intelligence

At 7 P.M. on October 22, 1962, President Kennedy delivered the major foreign policy address of his career. Disclosing the American discovery of the presence of Soviet strategic missiles in Cuba, the president declared a “strict quarantine on all offensive military equipment under shipment to Cuba” and demanded that “Chairman Khrushchev halt and eliminate this clandestine, reckless, and provocative threat to world peace.”⁵¹ This decision was reached at the pinnacle of the U.S. government after a week of deliberation. What initiated that crucial week were photographs of Soviet missile sites in Cuba taken on October 14 by a U-2 aircraft piloted by Air Force Major Richard Heyser. Had this information not become available until weeks later, the American reaction would likely have been very different. A blockade aimed at stopping shipments of missiles and warheads that had already arrived would lack a certain plausibility. Indeed, Khrushchev's original plan could have succeeded. He would have unveiled the missiles on his timetable and then, as he had promised, moved onto a climactic confrontation to force the West out of Berlin. The discovery of the missiles on October 14 thus determined the context in which American leaders came to choose the blockade.

After the missile crisis, there was considerable debate over alleged American intelligence failures. But what both critics and defenders in that debate mostly miss is how extraordinary it was that the Soviet missiles were discovered at all. Their discovery was possible only because of the special organizational capacities, routines, and procedures of the U.S. intelligence community. The capabilities had not been developed for a Cuban scenario. Had they not been created earlier, however, no discovery would have occurred.

The job of intelligence requires incredibly complex organizations, coordinating large numbers of actors, processing endless piles of information. That these organizations must function according to established routines and standard procedures is a simple fact. The organizational routines and standard operating procedures by which the American intelligence community discovered Soviet missiles in Cuba were neither more nor less successful than they had been the previous month or were to be in the months to follow.⁵²

The available record permits a fairly reliable reconstruction of the major features of the organizational behavior that resulted in discovery of the Soviet missiles. Intelligence on activities within Cuba came from four primary sources: shipping intelligence, refugees, agents within Cuba, and U-2 overflights. Intelligence on all ships going to Cuba pro-

vided a catalogue of information on the number of Soviet shipments to Cuba (at least 85 by October 3), the character of the ships (size, registry, and the fact that several large-hatch ships were used), and the character of their cargoes (transport, electronic, and construction equipment, SAMs, MiGs, patrol boats, and Soviet technicians). Ships were systematically tracked and photographed if they were deemed to have "special interest," fitting a seven-part profile prepared and distributed by the Office of Naval Intelligence. The design of ships was also analyzed, and the photographic interpreters developed a new specialty, which they called "cratology," for measuring, identifying, and cataloguing different kinds of crates and their contents.⁵³

Refugees were a second source of intelligence. Refugees from Cuba brought innumerable distorted reports of Soviet missiles, Chinese soldiers, etc. The low reliability of the reports made their collection and processing of marginal value. Nevertheless, an interdepartmental interrogation center was established in February 1962 at Opa Locka, Florida, which collected, collated, and compared the results of interrogations of refugees—though often with a lag, since refugees numbered in the thousands. This created an organizational capacity, manned by trained bilingual professionals, to compile, screen, and distribute the reports in a systematic way. Another procedure was created, in May 1962, to identify suspect locations for aerial surveillance and photographic evaluation. Still a further procedure was added in August, after the Soviet buildup became evident, to create a comprehensive card file on possible Cuban targets.⁵⁴

Amid more than 800 refugee reports received during September, two received particular attention since each described, in some detail that corroborated the other, a Soviet truck convoy that appeared to be towing ballistic missiles toward the San Cristobal area of Cuba. The Cubans dated their observations on September 12 and 17; the observations were published in Opa Locka reports that were distributed on September 27 and October 1.⁵⁵

In addition to refugees, CIA had a small number of Cuban agents in Cuba. They would write reports, using secret techniques, and, according to procedures of their tradecraft, mail them to a city outside the United States. The address was a "drop" from which the letters were collected, and then deciphered and processed at CIA headquarters. One report described a large zone in western Cuba (including San Cristobal) that was heavily guarded by Soviets, and noted a particular location where important work on missiles was apparently in progress. This observation was made on September 7; the letter

mailed on September 15; and the headquarters report distributed on September 18. Another agent reported a conversation with Castro's personal pilot, in which the pilot described the coastal defense and SAM missiles, the radar system, and reportedly added: "There are also many mobile ramps for intermediate range rockets. They don't know what is awaiting them." Obtained in Cuba on September 9, this information was apparently mailed on September 15, and the resulting report distributed by CIA headquarters on September 20.⁵⁶

The reports were part of a massive paper flow that carried routine transmissions. But due to procedures that had been established the convergence of separate geographic reports was noted and analysts prepared a new "target card" on San Cristobal between October 1 and 3. Again in accordance with the procedures, this card then became a strong cue for aerial surveillance.

The aerial surveillance was the most extraordinary part of the system. In an era of satellites and space shuttles, it is almost impossible to appreciate how amazing U-2 photography was, as a technical feat, in 1962. By 1956, the United States had deployed an aircraft that could fly at 70,000 feet (beyond the altitude of the fighters or air defense missiles of that time), mount multiple cameras that could discern objects only a few feet long, and photograph steadily during hours of flight from a distance of nearly 14 miles. The cameras—synchronized—shot continuous panoramic photos over a swath of earth 100 miles wide. The thousands of feet of film that were used had to be stored in a small space aboard the plane. This technological achievement in photography alone relied on fusing several key discoveries in chemistry, engineering, and electronics.⁵⁷

A unique, heretofore unimagined, aircraft was also needed—the U-2. After appraising Air Force progress and its complex procedures for setting aircraft requirements (a compromise between various potential users) and for supervising production, President Dwight Eisenhower approved acquisition of such a plane in 1954, "but he stipulated that it should be handled in an unconventional way so that it would not become entangled in the bureaucracy of the Defense Department or troubled by rivalries among the services."⁵⁸

The CIA was put in charge of the program, to work in a partnership with the Air Force. Devising his own procedures using secret funds hidden from public scrutiny, the project director, Richard Bissell, created entirely new capacities. The U-2 was built by a secret production line at Lockheed (called the Skunk Works) in record time and on budget. Twenty months after the project was approved, the first U-2

actually flew a mission over the Soviet Union. Bissell's team of experts was drawn from the CIA, the Air Force, and civilian contractors (mostly from Lockheed). "Forming harmonious teams out of these groups took a surprising amount of time and attention," Bissell recalled. It is no surprise that Curtis LeMay, the powerful head of Strategic Air Command, repeatedly attempted to take over the program on behalf of the Air Force (or that Bissell received private encouragement from organizations within the Air Force that preferred to see the CIA keep the program rather than see it go to their rival).⁵⁹

The CIA then also received lead responsibility, working with the Air Force, for building the U-2's successors, a more invulnerable airplane and a satellite that could photograph installations from space (Project Corona). The resulting aircraft flew regularly until the late 1980s and was never shot down. By 1960, the Corona satellite was able to photograph a million square miles of the Soviet Union on film released from the spacecraft in a 20-pound capsule that was retrieved in midair by an airplane. The CIA could not really take the credit for the prodigious organizational achievement represented by Corona because, by that time, the Air Force had wrested back control of the program.⁶⁰

After pictures were taken by these organizations and their systems, film had to be developed, enlarged, and analyzed by teams of experts trained to work together employing a variety of methods and disciplines to interpret the photos.⁶¹ This was done in the National Photographic Interpretation Center (NPIC), which was run by the CIA and directed by Arthur Lundahl, employing an interagency team. On the morning of October 18, McCone mentioned to his colleagues that six U-2 missions flown the previous day "involve about 28,000 linear feet of film. When this is enlarged, it means the Center [NPIC] has to examine a strip of film 100 miles long, 20 feet wide." McCone added, laconically: "Quite a job."⁶² The analysts completed the job in about one day.

All these capacities had been created long before the crisis in Cuba. Thus, the major factor in the discovery of the missiles cannot be explained by referring to intentions of the Kennedy administration, since most of the key decisions had been made by the Eisenhower administration, including all the decisions to create the revolutionary capacities for overhead reconnaissance, from U-2 to NPIC.

Intelligence experts in Washington processed information received from these four sources and produced estimates of contingencies. Hindsight highlights several bits of evidence in the intelligence system

that might have suggested the presence of Soviet nuclear missiles in Cuba by mid-September. Yet the September 19 National Intelligence Estimate, described in Chapter Two, concluded that the Soviet Union would not introduce offensive missiles into Cuba. No U-2 flight was directed over the western end of Cuba between September 5 and October 4. No U-2 actually flew over the western end of Cuba until the flight that discovered the Soviet missiles on October 14. Can these "failures" be accounted for in organizational terms?

On September 19, when the highest assembly of the American intelligence community, the United States Intelligence Board (USIB), met to consider the question of Cuba, one or another component of the U.S. government possessed assorted clues suggesting the possible presence of Soviet missiles in Cuba. Earlier U-2 photos, including recent ones taken from the periphery of Cuba (to avoid a direct overflight) already showed the construction of a number of SAM sites and the coastal defense cruise missiles.

Not all this information, however, was on the estimator's desks. Information does not pass from the tentacle to the top of the organization instantaneously. Facts can be in the system without being available to the head of the organization. Information must be winnowed at every step up the organizational hierarchy, since the number of minutes in each day limits the number of bits of information each individual can absorb. It is impossible for people at the top to examine every report from sources in 100 nations (many of which then had as high a priority as Cuba). But those who decide which information the boss shall see rarely see their bosses' problem. Finally, facts that with hindsight are clear signals are frequently indistinguishable from surrounding "noise" before the occurrence. The volume of reports about Cuba flowing into the system has been noted above. It was known that defensive SAMs were being emplaced. As one CIA analyst reflected later, "Knowledge on the part of the analysts that such a deployment was in fact going on, plus the normal difficulties encountered by untrained observers in telling an offensive [longer-range ballistic] missile from a defensive one, tended to throw a sort of smoke screen around the Soviet offensive deployment when it finally began."⁶³

Intelligence about large-hatch ships riding high in the water did not go unremarked. Shipping intelligence experts spelled out the implication: the ships were probably carrying some kind of military equipment. These details were carefully included in the catalogue of intelligence on shipping. For experts alert to the Soviet Union's pressing requirement for ships, however, neither the facts nor the implica-

tion carried a special signal. The spy report of Castro's pilot's remark had been received at Opa Locka along with reams of inaccurate and even deliberately false reports spread by the refugee community. That report and hundreds of others had to be checked and compared before being sent to Washington. The days or weeks required for processing could have been shortened by greatly increasing the resources devoted to this source of information. But the yield of this source was quite marginal, and there was little reason to expect that a change in procedures that reduced transmission time to one week would be worth the cost. Nor had U-2 flights produced a hard indication of the presence of offensive missiles.

Given the information available to them on September 19, then, the chiefs of intelligence judged that the Soviets would not introduce nuclear missiles into Cuba. After September 19, the organization's procedures led analysts to notice the convergence of reports and prepare a new target card, which together highlighted the particular need for surveillance of the area of western Cuba. This cue was passed along by the Targeting Working Group of the Interagency Committee on Overhead Reconnaissance (COMOR) to the senior officials staffing that committee. A hypothesis laying out the suspected deployment of MRBMs was put on paper on October 1 and discussed that day in a briefing for McNamara and the Joint Chiefs of Staff.⁶⁴

On October 4, the COMOR recommended plans for flights directly over Cuba, to cover the suspect area. McCone then carried that recommendation into arguments with the top officials of the government that were finally resolved, in his favor, by Kennedy on October 9. This group also decided that if a U-2 plane was shot down it should be a military aircraft, so operational control of the U-2 flights was transferred from the CIA to the Air Force's Strategic Air Command. Kennedy was reassured that there would be no loss of organizational capacity, however, because the CIA personnel and aircraft continued to perform key tasks and the Air Force pilots had already been specially trained for this duty. After October 9, the weather precluded an overflight until October 14. The gradual accumulation of pieces of evidence leading to the formation of a hypothesis that the Soviet Union was installing missiles and then to the decision to dispatch a U-2 over the western tip of Cuba is again, at least in substantial part, routine and nonstartling from an organizational perspective.

Organizational Options

Deliberations of leaders in the White House meetings produced broad outlines of alternatives. Details of the alternatives and blueprints for

their implementation had to be specified by the organization that would be responsible for execution. The organizations answered the question: What, specifically, *could* be done?

The first days of discussion in the White House came to a near-consensus that the Soviet missiles had to be removed from Cuba. The principal military options for doing this included a massive air strike followed by an invasion (with the added virtue of removing Castro, too) and a much narrower air strike aimed only at removing the ballistic missiles. Throughout the discussions, the viability and contours of an air strike were always on the table. Kennedy was strongly attracted to an air strike at the beginning of the discussions on October 16. As he told his National Security Council on the afternoon of October 22, "I've said from the beginning, the idea of a quick strike was very tempting, and I really didn't give up on that until yesterday morning." That was when, after one more discussion with the Air Force general in charge of planning the strike, Kennedy was again convinced that the surprise attack "would have all the difficulties of [being a parallel to the Japanese surprise attack on] Pearl Harbor and not have finished the job. The job can only be finished by an invasion." The U.S. government continued to prepare for an invasion, which still might have been the next step if the blockade and accompanying demands did not convince the Soviets to remove the missiles voluntarily.⁶⁵

To Kennedy, the difficulties of a strike were partly moral but mainly political, including the danger of retaliation against Berlin and the extent of allied unity to defend Berlin if America was blamed for rashly starting a war. Yet the question of whether an air strike would "finish the job" was a factual question about capabilities.

Organizations defined what the president believed U.S. military equipment and personnel were capable of doing in the Cuban missile crisis. Months before the discovery of missiles in Cuba, the armed forces had prepared three major plans for action against Cuba: Oplan 312 (air attacks alone) and Oplans 314 and 316 (two major variants for an invasion). Thus when asked about an air strike against missiles in Cuba, the Air Force began with Oplan 312.

In late August 1962, Kennedy had ordered the Department of Defense to study military options to "eliminate any installations in Cuba capable of launching nuclear attack on the U.S.," including "the pros and cons of pinpoint attack, general counterforce attack, and outright invasion."⁶⁶ The presidential order spurred an intense reevaluation of the air strike plan, which until then had been abstract and associated only with a general attack on Cuba. The new work on the air strike plan went to the U.S. Air Force's Tactical Air Command,

headed by General Walter Sweeney. In August, spurred by both the presidential order and Sweeney's own concerns, Sweeney's staff began developing much more realistic strike plans, focused much more on the particular kinds of targets that were being identified in Cuba.⁶⁷

The Defense Department's first answer to Kennedy's inquiry stated that the only weapons in Cuba that could bomb the United States were 25 older model MiG fighter-bomber aircraft. Pentagon planners began reviewing the weak air defenses in the southeastern United States and TAC actually constructed a model of the advanced concrete revetments (shelters to protect aircraft) being used at Cuban airfields. The model was completed at Nellis AFB in Nevada on September 30 and used for practice bomb runs and measurements of bombing effectiveness. Late in September, intelligence experts began observing the late-model MiG-21 aircraft being unloaded and deployed on fields in Cuba. The MiG-21 was capable of dropping either nuclear or conventional bombs. SAM air defense missile sites were being tracked, too. Kennedy met with McNamara and the Joint Chiefs on September 14 and discussed strike plans. His interest was so detailed that he wrote McNamara a week later noting apparent uncertainty about planned aircraft losses in attacking SAM sites and urging McNamara to keep updating the contingency plans "taking into account the additions to their armaments resulting from the continuous influx of Soviet equipment and technicians."⁶⁸

In early October, CIA Director McCone called attention to the increasing numbers of MiG-21s observed in Cuba because of their "definite offensive capability against nearby American cities and installations" and the intelligence community also observed, for the first time, the unloading of IL-28 medium bombers.⁶⁹ In mid-October, the plans were revised again, both because the ballistic missile installations had now been spotted and had become a new target set, and because the overflights directly over the island (rather than around its periphery) disclosed much more data about other military deployments.

Sweeney and TAC were still in charge of the air strike plan. Air Force Chief of Staff Curtis LeMay, who had also suspected that the Soviets were planning to put ballistic missiles into Cuba, was impressed with Sweeney's planning and training efforts during September. So LeMay helped devise an unusual arrangement, by which Sweeney subordinated himself to the operational theater commander responsible for Cuba, the Commander-in-Chief of Atlantic Forces (CINCLANT) Admiral Robert Dennison, and

became the commander of Dennison's air forces. Dennison agreed. LeMay then authorized Sweeney to begin preparing to execute his strike plan by moving aircraft, people, and supplies into Florida. The process was well underway for at least a week before the missiles in Cuba were photographed by the U-2. Air strike options considered after the ballistic missiles were photographed on October 14 emerged from the organizational decisions and preparations taken weeks earlier.

The air strike contingency plan, Oplan 312, was separate from the invasion contingency plan. Oplan 312 allocated forces for strikes against sets of targets. The strike plan came in five variants, based on which sets of targets would be covered. Each target set required a certain number of sorties (a sortie is an individual mission by an individual aircraft). In summary form, the organizational options initially presented to the White House, as of October 17, were as follows:

<i>Variant</i>	<i>Sorties</i>
I. Missile and nuclear storage sites only:	52
II. Above plus IL-28s, MiG-21s:	104
III. Above plus other aircraft, SAMs, cruise missiles, and missile boats:	194
IV. All military targets except tanks:	474
V. All military targets; prelude to invasion:	2,002

The strike packages, with their associated sortie numbers, were calculated by judging how many aim points needed to be hit to destroy a target, then estimating how many attacking aircraft were needed to hit an aim point. Practice runs yielded a "circular error probable": x number of bombs dropped equaled y percentage of bombs dropped within a given radius of the target. As Merritt Olsen writes, "until April of 1972 the ability to hit a small target with a bomb dropped in any mode of delivery from a tactical fighter moving at 450-550 knots was nearly zero for a single pass with a string of eight bombs."⁷⁰ Standard statistical procedures were used to estimate the number of sorties required to produce success, defined in these calculations as a 90 percent chance of destroying the targets.

Using these same methods, planners calculated that there was a diminishing marginal return after a certain point such that it was very difficult to push confidence of destruction above 90 percent without allocating greatly disproportionate numbers of aircraft to each target. So, as Taylor told Kennedy from the beginning, there could be no

guarantees of complete success from a single strike. Multiple strikes would be needed, concentrating on the surviving targets.

After each new round of U-2 photos was analyzed, new targets were identified, driving up the number of aim points. Sortie calculations increased accordingly. The MRBMs had been discovered by the October 14 U-2 flight. The IRBM sites under construction were discovered a day later, hardening attitudes in Washington and increasing again the number of sorties required. More planning clarified new requirements for fighter escort or suppressing air defenses. The first dozen MiG-21s were spotted in September; nearly 40 more were identified at two other airfields on October 17. Yet the constant revisions in the plan were frustrating to those who had to explain what was going on to the politicians. Presented with newly enlarged sortie numbers at a JCS meeting just before a round of climactic meetings, Taylor exclaimed in frustration to his Pentagon colleagues: "What! These figures were reported to the White House. You are defeating yourselves with your own cleverness, gentlemen."⁷¹

Variant I, targeting the missile and suspected nuclear weapon storage sites, had highest priority. The military desire to strike the IL-28s, in Variant II, was also easy to understand since these medium bombers could carry nuclear weapons. But knocking out the IL-28s would be relatively easy since few had been assembled and they were all at one airfield, San Julian. The large size of the target set of Variant II arose from the MiG-21s. More than 40 of the advanced fighter interceptors had been spotted in Cuba. In theory, they could carry nuclear bombs, and they certainly had the capability to carry conventional bombs, though only for short distances, against targets in Florida. In September, the Air Force had already noticed that it had no air defenses readied in the southeastern United States that could stop the MiG-21s from dropping bombs against Miami or other cities. American air defenses were substantial, but they had been designed for attacks from the Soviet Union, not from the Caribbean. The military leaders were understandably anxious not to attack Cuba while their defenses were so wide open to such retaliation against America (for which the military might expect to be blamed, as it was for the failure to defend Pearl Harbor).

The major element driving up sortie numbers in Variant III was the attempt to knock out the scores of Soviet SAM sites.⁷² Top Air Force officers were unanimous in the desire to destroy these sites in an initial strike. Ground defenses made the probability of target destruction much lower, because attackers would fly at higher altitudes, with

more evasive maneuvers, greater stress, and greater speed. But, as an organization, the U.S. Air Force believed deeply in not sending pilots to attack targets without first suppressing air defenses. So the Air Force, readily joined by the other military chiefs, felt strongly and unanimously that the president should order at least strike Variant III. Though Kennedy himself, and one or two of his advisers, kept coming back to the idea of a more limited strike, Kennedy's top civilian as well as military officials came to a consensus, on October 18, that strike Variant III was the minimum feasible approach.

Kennedy and his senior advisers were thus presented with organizational options, constructed with a methodology they dimly understood, that pushed toward a very large strike (with proportionately larger dangers of Soviet retaliation in Berlin or even against the U.S.) while not offering a guarantee of success. On October 21, even after Kennedy had settled on the blockade approach (possibly to be followed by a strike), he met again directly with General Sweeney. Sweeney outlined his best plan, reflecting Variant III, which would suppress air defenses and the dozens of coastal defense cruise missiles, requiring a number of sorties that had grown during the week from 194 to 350–500. Taylor reiterated, with Sweeney's concurrence, that, "The best we can offer you is to destroy 90 percent of the known missiles." As Sorensen recalls: "The Air Force admitted—and this in particular influenced the President—there could be no assurance that all the missiles would have been removed or that some of them would not fire first."⁷³ No assertion could have made the air strike less attractive to the president of the United States.

For years afterward, a number of Kennedy's advisers expressed bewilderment and annoyance about the absence of a viable "surgical" strike option. Former secretary of state Dean Acheson, for instance, complained about how "the narrow and specific proposal, pressed by some of us, constantly became obscured and complicated by trimmings added by the military. . . . While a drill book might call for preliminary attack on Cuban defenses, this was not necessary for the action we recommended." Rather than accept the organizational explanation (dismissively referred to as "trimmings" from the "drill book"), some of these advisers explained the Air Force's unwillingness to serve up a narrow strike option as its attempt to force Kennedy into choosing an invasion.⁷⁴

The air strike option was not ruled out, however, and became more plausible as the crisis went on. Use of low-level reconnaissance gave more definitive information about target points. With the need for

secrecy eliminated, interceptor aircraft crowded into Florida and lessened the concern about vulnerability to retaliation from the MiG aircraft based in Cuba. Continued American low-level reconnaissance missions, which had begun after Kennedy's televised speech and flew unarmed aircraft over missile sites at altitudes of only a few hundred feet, made clear how vulnerable the missiles were. Civilian experts reviewed plans for an airstrike, reexamining assumptions made in the prior week's estimates. MRBMs classified by the Defense Intelligence Agency manuals as "mobile" could be moved in perhaps 48 hours, but movement of such large items on trucks with trailers could be effectively tracked. Missiles that Kennedy had hesitated to attack, fearing that under attack some might fire first, were shown to be "eight hours from launch." Thus, McNamara reported to the president on October 25 that "we're moving to a position now, where we can attack those missiles and have a fair chance of destroying them with very few aircraft."⁷⁵

The JCS still preferred the larger strike, of at least Variant III scale. Kennedy also thought in these terms. After the American U-2 was shot down over Cuba on October 27, Kennedy discarded plans that would have retaliated by attacking the one offending SAM site. He explained that, "I don't think we do any good to begin to sort of *half* do it. . . . If they still fire [on our surveillance aircraft] and we haven't got a satisfactory answer back from the Russians, I think that we ought to put a statement out tomorrow that we are fired upon. We are therefore considering the island of Cuba as an open territory, and then take out all the SAM sites. . . . Otherwise . . . our reply will be so limited that we'll find ourselves with all the disadvantages."⁷⁶

Organizational Implementation

The U.S. government opened the public phase of the crisis by ordering a blockade of Cuba, which for legal and political reasons the U.S. termed a quarantine. A political decision was made to blockade all armaments going into Cuba, but not to try to interrupt life-sustaining flows of food or of fuel (usually referred to by the acronym POL, standing for "petroleum, oil, and lubricants") for fear that a reciprocal blockade might be placed on supplies flowing into West Berlin.

Beyond that judgment, the task of specifying the *details* of the option named "blockade" belonged to the Navy. Before the president announced the blockade on Monday evening, the first stage of the Navy's blueprint was in motion. The Navy had a detailed plan for the blockade, drawn up with McNamara's encouragement before the mis-

siles had been discovered.⁷⁷ The president had several less precise but equally determined notions about what should be done and when and how. For the Navy, the issue was one of effective implementation of a military mission—with minimal meddling and interference from political leaders. For the president, the problem was to pace and manage events in such a way that the Soviet leaders would have time to see, think, and blink.

Observers of such conflicts naturally side with the responsible political leaders against the parochial organizations. But the tendency should be restrained in this case, for implementation of the proclaimed quarantine was no small order. First, the quarantine area included nearly one million square miles of water. The Navy launched a large effort: some 180 ships. Ships from the mid-Atlantic had to approach Cuba by one of five navigable channels. Naval reconnaissance planes spotted all Soviet ships and plotted their position, speed, and direction. Operation of the quarantine qualifies as a virtuoso organizational performance by the Navy's Atlantic Fleet, a tribute to the quality of its prior planning, training, and design of routines.⁷⁸

This operation was complicated, however, by a second factor—new to naval history and modern relations between American political leaders and military organizations. Advances in the technology of communications made it possible for political leaders in the basement of the White House to talk directly with commanders of destroyers stationed along the quarantine line. Advances in the technology of mass destruction created the possibility that acts by men on a single destroyer in that quarantine line could rapidly escalate to bring death to millions of Americans. Thus the governmental leaders had both the capability and the incentive to reach out beyond the traditional limits of their control. Maps in the Situation Room in the basement of the White House tracked the movement of all Soviet ships.⁷⁹ Kennedy and his advisers eventually knew each of the ships by name and argued extensively about which should be stopped first, at what point, and how. Sorensen records "the President's personal direction of the quarantine's operation . . . his determination not to let needless incidents or reckless subordinates escalate so dangerous and delicate a crisis beyond control."⁸⁰

A surface chronology establishes a context within which questions arise. The president first heard a discussion of how the blockade would actually operate at a meeting of the National Security Council on Sunday, October 21. Admiral George Anderson, chief of naval operations, explained that 40 ships were already in position. He

described the method for making an interception, following accepted international rules. The ship would be asked to stop. If it refused, shots would be fired to disable the ship, then it would be boarded and towed, if necessary, back to a U.S. port. Anderson suggested giving the Russians a grace period after the blockade was announced so Moscow would have time to instruct merchant ship captains on what they should do.⁸¹

Anderson then turned to his rules of engagement. If any Soviet warship or aircraft in Cuba took "hostile action" against an American ship, the offending vessel or plane could be destroyed. If a Soviet submarine tried to evade the blockade and make its way underwater to Havana, Anderson said he would ask for permission to destroy it. McNamara concurred, supporting rules of engagement allowing violent responses to hostile action.⁸²

On October 23, the implementation of the blockade was discussed in greater detail. Kennedy agreed it would not take effect until the morning of the next day, October 24. At first, the White House resisted setting a fixed radius from Cuba for the blockade, preferring to stop any ship that still seemed to be moving toward the island—especially one that might be carrying arms. Then McNamara suggested an interception radius of about 800 miles from Cuba, a convenient distance because this would keep U.S. ships beyond the range of IL-28 bombers based in Cuba and well beyond the range of the MiG-21 aircraft based there.⁸³ The first Soviet ships carrying weapons, especially the *Kimovsk*, would pass that line during the night of October 23–24 and, under this plan, they would be intercepted at dawn so the Navy could conduct operations in daylight.

Thus in the early evening of October 23, just after he signed the formal executive order to establish the quarantine, Kennedy turned to his advisers: "Now, what do we do tomorrow morning when these eight [Soviet] vessels continue to sail on?"⁸⁴ They agreed that U.S. ships would stop and, if necessary, board Soviet ships even if they were carrying "baby food." But Kennedy pressed to understand, step by step, just what might happen. "These fellows need as detailed instructions as possible," he emphasized, "from those who are knowledgeable about the sea [as Kennedy was] and know just how to proceed on this." Kennedy was anxious to avoid a bloody battle on board a Russian ship, and suggested the possibility of simply allowing a disabled ship to drift rather than "try to board it and have them reopen machine guns and have 30 to 40 people killed on each side."⁸⁵

Yet the alternative of shadowing a disabled ship created another problem, since U.S. ships were reluctant to linger in a single place because of danger from Soviet submarines. Several Soviet attack submarines had been accurately identified cruising toward Cuba near the leading group of ships. The situation was too complex. McNamara urged, "I think we have to allow the commander on the scene a certain amount of latitude . . ." Kennedy agreed, but told McNamara to "make sure that you have reviewed these instructions that go out to him."⁸⁶

Later that night of October 23, Kennedy reviewed the plans further with the British ambassador, David Ormsby-Gore. Ormsby-Gore suggested giving the Russians a bit more time. Instead of intercepting their ship at dawn (after it had crossed the 800-mile line during the night), he proposed waiting until it was only 500 miles from Cuba. This would put the interception within range of IL-28s, but just beyond the range of the MiG-21s. Kennedy agreed and called McNamara. McNamara resisted. Kennedy overruled him, and presumably the Navy too. From then on, the blockade line became increasingly formalized at a radius of 500 miles.⁸⁷

The first Soviet ships approached the quarantine line on Wednesday, October 24, but halted and turned around just before challenging it. Information that this had occurred arrived at the White House in the late morning. Had the original plan not been altered, the U.S. Navy probably would have attempted to stop the lead Soviet ship, the *Kimovsk*, shortly after dawn. The *Kimovsk* was well past the original arc for interception. The Navy was just waiting for daylight. We cannot know what would have happened if the U.S. had in fact stopped and attempted to board the *Kimovsk*, which was carrying missiles, some of the most sensitive equipment in the Soviet armed forces. The *Kimovsk* and other ships were contacted by radio from the Soviet Union at about 2:30 A.M.⁸⁸

Fortunately, because Kennedy had contracted the quarantine line there was no attempted interception of a Soviet ship at dawn. The *Kimovsk* would have reached the new 500-mile point and was scheduled for an intercept at the very time news was confirmed that it had turned around—between 10:30 and 11:00 A.M., Washington time. The instant the good news was confirmed, Kennedy ordered that the *Kimovsk* be left alone and given the chance to retreat.⁸⁹ A Soviet attack submarine was shadowing it, about 20 to 30 miles away.

As Dean Rusk put it at the time, the Soviets had blinked. Yet earlier in the morning, before that news could be confirmed, Kennedy

was still worried about the behavior of U.S. and Soviet organizations. As part of their defensive routine the U.S. Navy ships were keeping radio silence. Neither the Soviets nor the White House knew the precise location of the front-line ships. The Soviet submarine would plainly be in the picture. American ships would track the submarine and attempt to force it to surface.

The previous day, unknown to Kennedy, a procedure for signaling the Soviet submarine had been devised. The procedures were delivered to the Soviet foreign ministry the previous night. The State Department thought it was a standard procedure. "No," McNamara corrected. "This is a new procedure I had them set up yesterday." McNamara explained it: "We have depth charges that have such a small charge they can be dropped and they can actually hit the submarine, without damaging the submarine. It is the depth charge that is the warning notice and the instruction to surface."

So, contrary to the president's best laid plans to control the first encounter between American and Soviet ships to limit risks, the Navy was now on its own. His hopes of a ship with no prohibited items had been overtaken by the most dangerous engagement he had imagined, namely a Soviet submarine that might be (and as it turned out in fact was) armed with nuclear torpedoes. And at this very moment his ships might be experimenting with a newly-devised procedure to bombard that submarine with depth charges. As Robert Kennedy noted at the time, "these few minutes were the time of greatest worry by the president. His hand went up to his face and covered his mouth and he closed his fist. His eyes were tense, almost gray, and we just stared at each other across the table."⁹⁰

President Kennedy pressed. "If he doesn't surface or if he takes some action—takes some action to assist the merchant ship, are we just going to attack him anyway? At what point are we going to attack him?" Kennedy was obviously troubled. "I think we ought to wait on that today. We don't want to have the first thing we attack as a Soviet submarine. I'd much rather have a merchant ship."⁹¹ Kennedy apparently also did not know that the very Soviet submarine they were discussing was carrying—as part of its normal complement of torpedoes—a torpedo armed with a nuclear warhead.

Both McNamara and Taylor assured Kennedy they would only engage the submarine if it was in a position to attack an American ship while it was intercepting a merchant ship. But McNamara cleared resentment the Navy's logic, arguing that "it would be extremely dangerous, Mr. President, to try to defer attack on this submarine in the

situation we're in. We could easily lose an American ship by that means." The interception could not be safe "if we restrict the commander on the site in any way. I've looked into this in great detail last night because of your interest in the question."⁹² "Okay," President Kennedy finally replied. "Let's proceed."

Secretary of State Dean Rusk reminded McNamara to be sure the Navy knew that retreating Soviet ships should not be pursued. Kennedy continued asking questions to satisfy himself, for example, that Russian-speaking officers were on each ship, that this become a "matter of procedure as quick as possible."⁹³

In fact, the first direct contact with a Soviet ship occurred Thursday morning, October 25, when the tanker *Bucharest* crossed the line. On presidential orders it was allowed to continue after merely identifying itself. American warships shadowed the *Bucharest* as it proceeded toward Cuba while the ExCom discussed whether to intercept it. An East German passenger ship, the *Völkerfreundschaft*, was also allowed to pass—again after debate. The first boarding occurred Friday morning, October 26, when the *Marucla*, a Lebanese freighter under charter to the Soviets, was stopped, boarded, and inspected before being allowed to pass. Later that day, a Swedish ship under charter to the Soviets, the *Coalangatta*, simply ignored American requests to stop and identify itself, and the White House made the decision not to allow the Navy to fire on it. Another troubling encounter, with a Russian ship, the *Grozny*, seemed imminent when the crisis eased on October 28.

There are many still unanswered questions about the combination of government decisions or organizational behavior explains the behavior reflected in actions of Soviet ships. Khrushchev's October 25 promise to the UN that he would keep his ships from challenging the American blockade only compounds the puzzle.

Any analyst sensitive to organizational perspectives will surmise that this chronicle of developments in the White House must have caused serious problems between the Navy and the government leaders. The difficulty of McNamara's position, sandwiched between a demanding, worried president and a resentful, worried Navy is apparent. Though the details of stories differ, there is no doubt that there were some acrid confrontations in the Pentagon between McNamara, his deputy Roswell Gilpatric on the one hand and various naval officers, especially Admiral Anderson, on the other.

On the evening of October 24, Anderson reportedly told Gilpatric, bluntly: "From now on, I don't intend to interfere with Dennison or either of the admirals on the scene" until the Soviet missiles are

removed from Cuba. Later in the evening, McNamara, who had also already clashed with Anderson, pressed matters further. We quote here at length from one reliable chronicler, Dino Brugioni, whose reconstruction of a confrontation in the Navy's inner sanctum, the Navy Flag Plot, is especially revealing about the contrasting logics revealed in McNamara's insistence and Anderson's resistance.

McNamara noted that there were two U.S. destroyers several hundred miles from the quarantine line When McNamara asked why the destroyers were so far from the quarantine line, Anderson took him aside again to explain that U.S. forces were holding down a Soviet F-class [attack] submarine at that location.

McNamara demanded to know who had given those orders. Anderson explained it was just part of the overall naval strategy and that in such situations it was a common Navy practice to "trail" unidentified submarines.

"How sure are you that it is a Soviet submarine?" McNamara asked.

"Trust me," was Anderson's answer. Then he added that the reason these Soviet submarines were so far west in the Atlantic was undetermined and that he could not allow them to "pose any threat to my Navy."

"How does he know you are above him?" McNamara asked. Coming as it did from the secretary of defense, this appeared to be an ignorant question to anyone familiar with submarines. . . .

"Isn't this dangerous?" McNamara asked.

"If he chooses to make it so. Otherwise, he can do as he has in the past few days—that is, come up for air and charge his batteries."

McNamara was dumbfounded that Russian submarines were being held down and was irritated by Anderson's casual attitude

The Russian submarines, when actually warned, . . . continued to stay submerged until foul air and uncharged batteries forced them to surface.

When Anderson reassured the secretary that things concerning the blockade were going according to plan, McNamara asked, "What plan?" Anderson handed him a large black notebook containing the specific operational plan and said, "It's all there." McNamara disdainfully pushed the book aside.⁹⁴

THE WITHDRAWAL OF SOVIET MISSILES FROM CUBA

Chairman Khrushchev's announcement on Sunday, October 28, that "the arms which you describe as offensive [will be] crated and returned to the Soviet Union" marked the climax of the crisis.⁹⁵ A week of intense interaction between the United States and the Soviet Union preceded that announcement. That interaction was in large part a by-product of action within each nation—action that pitted government leaders against organizations whose outputs they sought

to control. Indeed, the similarities between the phrases with which the groups who sat on top of each government characterized "the problem" are suggestive. As Soviet ships approached American warships stationed along the quarantine line, the American leaders sent a letter to the Soviets expressing concern "that we both show prudence and do nothing to allow events to *make the situation more difficult to control* than it is."⁹⁶ Later, a Soviet reply emphasized the danger, "Contact by our ships . . . can spark off the fire of military conflict after which any talks would be superfluous because other forces and other laws would begin to operate—the *laws of war*."⁹⁷ As the climax of the crisis drew near, developments were, in the American phrase, "approaching a point where *events could have become unmanageable*."⁹⁸ Khrushchev chose another metaphor: the logic of war. "If indeed war should break out, then it would not be in our power to stop it, for such is the logic of war."⁹⁹

American *intranational* relations in the critical week of the crisis constitute a catalogue of friction and frustration as political leaders attempted to interfere with organizational routines and procedures in the name of flexibility and options. These established, rather boring, organizational routines determined hundreds of additional, seemingly unimportant details—both the key to enormous accomplishments and potential fuses for disaster. For example, after the crisis, Admiral Anderson testified that, "Our aircraft and ships were searching an area of some 3.5 million square miles for Russian ships and submarines. They were engaged in *the most extensive* and, I might add, *the most productive*, antisubmarine warfare operations since World War II."¹⁰⁰ It had at once been an extraordinary, and extraordinarily dangerous, organizational achievement.

A second encounter pitted the secretary of defense's "no cities doctrine" (enunciated in his Ann Arbor speech four months earlier in June 1962) against the alert procedures of the Strategic Air Command (SAC). According to the "no cities" doctrine, in the case of a nuclear war, the United States intended to launch weapons in a controlled fashion at Soviet military forces, rather than in an attack on Soviet cities and their citizens. Such an attack, it was hoped, would encourage the Soviet Union to attack only American military centers, since additional U.S. capability would remain to deter Soviet counter-city attacks. Nevertheless, the SAC alert dispersed nuclear-armed bombers to 40 civilian airports across the U.S.¹⁰¹ The "no cities" doctrine was shelved. So programmed was SAC's dispersal of bombers that some moved to civilian airports in the

southeastern United States, placing themselves within the range of the operational MRBMs in Cuba.

Third, the intelligence capacities and programs were also impressive, as noted earlier, but they too ran on a logic of their own. A few top officials knew that some valuable electronic intelligence (for instance, about instructions being given to Cuban pilots) was coming from a Navy intelligence ship, the U.S.S. *Oxford*, 10 miles off the Cuban coast—in what Cubans regarded as their territorial waters. On Friday morning, October 26, McNamara and another official called attention to the danger, prompted by indications that Cuban forces might be readying some action. To perform the intelligence task, the ship needed to be close to Cuba, where it could intercept high-frequency communications. Even at the risk of losing this capacity, McNamara recommended that “it seems wise to draw it out 20, 30 miles and take it out of the range of capture, at least temporarily.”¹⁰² This incident took five minutes of the ExCom’s time. For several years after the crisis, this fact seemed so trivial that it escaped note by accounts and analyses. But the procedures of that intelligence ship were not unlike those of the two now-famous U.S. intelligence ships: the *Liberty* (attacked by Israel during the 1967 Israeli-Arab war) and the *Pueblo* (captured by North Korea in 1968 when operating close to the shores of North Korea). In the aftermath of these incidents, we can now appreciate the significance of this small detail.

As the American forces shifted to DEFCON 3, no one in the White House appreciated what this entailed. Among the thousands of orders, one authorized SAC to fly arctic routes that had proved especially difficult, given capability for celestial navigation. Two months earlier, in August, a B-52 on the arctic route had flown nearly 500 miles off course and approached the Soviet border before it was frantically recalled. The error could not be fixed without changing the basic route of flight. That was not completed however, until two months later—during the crisis, after the alert had been in effect for several days.¹⁰³ The alert had already greatly increased the chance for another, more dangerous, error by increasing the number of B-52 sorties on the route.

However worrying this episode was, the bomber alert was least likely to suffer from near accidents since it was receiving so much high-level attention. An analyst of organizational behavior should instead be especially alert to unexpected interactions in operations that were getting far less high-level scrutiny. Examples abound.

As part of the SAC alert, a facility for test launching intercontinental ballistic missiles (ICBMs), Vandenberg Air Force Base in California, converted most of its test ICBMs into armed nuclear missiles. Vandenberg thus became an operational missile base. On October 26, near the climax of the crisis, Vandenberg launched an ICBM to fly thousands of miles toward its intended target. The target, however, was Kwajalein Island in the Pacific and the missile was a test flight. It was launched according to a test scheduled before the crisis that proceeded without interruption, irrespective of the nuclear confrontation. The Soviets, however, would not have known about the test schedule. If they were aware that Vandenberg had become an operational base for armed missiles during the crisis, the routine test launch could have appeared to be the first missile in the attack.

On the morning of October 28, an early warning radar detected an apparent missile launch from Cuba against the United States. The air defense command (NORAD) and the Strategic Air Command were alerted. There was no time to react; officers waited for the predicted detonation in Florida. There was no detonation. Officials breathed a sigh of relief, discovering later that an early warning center had inadvertently run a test tape, simulating a nuclear attack, at the same time that another radar site, recently activated to provide more redundant coverage, detected a satellite.¹⁰⁴ Such an interaction could have been even more dangerous if it had interacted with another false alarm, about which we still know little, triggered by the accidental explosion of a Soviet spacecraft and the radar detection of its debris, sometime in the last week of October.¹⁰⁵

Saturday, October 27, was the blackest and most frustrating day of the crisis. The ExCom convened at 10 A.M. to draft a reply to Khrushchev’s secret Friday letter. But a few minutes later, Kennedy read a news ticker announcing that Khrushchev “would withdraw offensive weapons from Cuba if the United States withdrew rockets from Turkey.” Bundy’s first reaction was, “No he didn’t.” They then realized it was a new letter, with a new deal. Kennedy was the first to realize the danger in the Soviet move, with its alluring public appeal. “He’s put this out in a way to cause maximum tension and embarrassment,” the president observed. “It’s not as if it was a private proposal, which would give us an opportunity to negotiate with the Turks. He has put it out in a way that the Turks are bound to say that they don’t agree to this.”¹⁰⁶

Kennedy may have been right. He and his advisers assumed the public proposal was clever, but made in bad faith—an attempt to snarl

the crisis in public negotiations while the missiles became operational. Yet some evidence from the Soviet side points to an organizational consideration. In this pre-hotline era, the Soviet leaders were frustrated at the time lag in their inefficient system of communication with Washington. It involved sending a telegram, waiting for the telegram to be delivered to their embassy (by Western Union), which would then decode and translate the message and arrange to deliver it. To the eight hour time difference between Moscow and Washington, this process added another ten hours. One of Khrushchev's staff remembers Khrushchev choosing the radio broadcast simply because the message would be received much more quickly. "Nobody foresaw that by making public the Turkish angle of the deal we created additional difficulties to the White House."¹⁰⁷

Then, early in the afternoon, an incident stranger than "Strangelove" occurred. A U-2 based in Alaska had been flying an arctic route on a routine mission planned and authorized before the crisis to collect atmospheric samples of residue from Soviet nuclear tests. Through no particular fault of his own, the pilot had navigation difficulties that caused him to fly off course into Soviet airspace. (Recall the problem SAC had in August 1962.) Soviet MiG fighters scrambled to intercept the offending aircraft. American fighters in Alaska were then sent aloft to protect the U-2's return.

But thanks to the DEFCON 3 alert, these American fighters were armed with air-to-air missiles carrying *nuclear* warheads. Their procedures for use meant that they carried the weapons in an "active air defense" mission ready and able to fire. Physical control over firing the weapons was entirely in the hands of the individual fighter pilots.¹⁰⁸ Fortunately, the U-2 was able to return to U.S. airspace without a clash.

Why should the Soviet Union not regard this as last-minute reconnaissance in preparation for a nuclear attack? As Khrushchev himself asked in his letter announcing withdrawal of the missiles:

One of your reconnaissance planes intruded over Soviet borders in the Chukotka Peninsula area. . . . The question is, Mr. President: How should we regard this? What is this, a provocation? One of your planes violates our frontier during this anxious time we are both experiencing, when everything has been put into combat readiness. Is it not a fact that an intruding American plane could be easily taken for a nuclear bomber, which might push us to a fateful step; and all the more so since the U.S. Government and Pentagon long ago declared that you are maintaining a continuous nuclear bomber patrol?¹⁰⁹

Were the organizations on top of which the president was trying to sit going to drag the country over the nuclear cliff in spite of all his efforts?

Discovering this incident while at the Pentagon during a break in the White House meetings, McNamara expressed alarm about the danger and drove to the State Department to tell Rusk. The next day the secretary of defense canceled all U-2 flights, anywhere in the world, until he could get a satisfactory explanation for what had happened. At the White House, Kennedy listened painfully as he was briefed on what had happened and then, according to the briefer, broke the unbearable tension with an ironic laugh. "There is always some son-of-a-bitch who doesn't get the word."¹¹⁰

Kennedy was certainly right. Another U-2, following the previously established schedule, had taken off on yet another air-sampling mission from the same Alaskan air base when McNamara's order arrived. It was recalled to base.¹¹¹

The potential implications of this inadvertent U-2 flight into Soviet airspace during the crisis were surely incredible. Certainly Kennedy had not intended such an incident. Yet the overall program of which the mission was a part was authorized. The nuclear alert had been authorized. There is no evidence, though, that any top official realized that nuclear-armed aircraft had scrambled to protect the U-2.

When McNamara returned to the Pentagon, he received more bad news. Word arrived that Cuban gunners had fired on the low-level reconnaissance flights. One plane was hit by a 37 mm shell. They all returned home. But that day's U-2 overflight of Cuba had not returned. Late in the afternoon, McNamara and Taylor learned that the overdue U-2 had been shot down. The pilot, Major Rudolf Anderson, had been killed.¹¹² The Soviet forces had finally fired their SAMs at the Americans.

Amid these events was constant discussion in Washington about the problem of the Jupiter missiles in Turkey. Khrushchev had used them effectively, Kennedy thought, as a negotiating ploy—for public consumption. Kennedy discovered yet another conflict between his agenda and that of the Department of State. As the implications of the second Soviet letter were discussed on Saturday morning, October 27, Kennedy was plainly angry. During the preceding week he had made clear, he thought, that State should undertake private discussion with the Turks that would prepare the way to respond effectively to Khrushchev's predictable maneuver.

Yet to the State Department, this request was taken as an opportunity to advance its strategy for dealing with Turkey and the Jupiters. The department had painstakingly organized a campaign to persuade European countries to abandon the goal of national

nuclear deterrence and join a multilateral nuclear force—the MLF. Thus the president's regret became an occasion for State to reiterate and reinforce their existing program. They would phase out Jupiters in Turkey once the multilateral force they were planning was agreed upon, established, and accepted as a substitute by the Turks. All three affected bureaus jointly presented this approach to Rusk on October 24.¹¹³

This was a program geared to a timetable of months, or years, not days. Thus when Kennedy raised the issue with State on the morning of October 27, the department had nothing to report except a preliminary sounding taken from the American ambassadors to Turkey, Italy, and NATO.¹¹⁴

"Well," Kennedy pressed, "have we gone to the Turkish government before this came out this week? I've talked about it now for a week. Have we had any conversations in Turkey, with the Turks?"

Rusk admitted that State had begun consulting with the U.S. ambassadors, but "we've not actually talked with the Turks." Rusk's deputy, George Ball, offered his view to the president that talking to the Turks "would be an extremely unsettling business."¹¹⁵

"Well, *this* is unsettling *now*, George, because he's got us in a pretty good spot here," Kennedy replied. The discussion moved on, but Kennedy did not forget. Two days later, he privately upbraided Dean Rusk when the two men were alone in the Oval Office. Kennedy harshly reminded Rusk that when Khrushchev's broadcast proposal "came in on Saturday, there was nothing there, really." There were cables to ambassadors. "But we were not really prepared to know what we were going to say, and we weren't prepared." Kennedy went on dressing down his nearly mute secretary of state. "Now it seems to me that somewhere in the State Department [someone] ought to be, about a week ahead, not just to be drawing plans up for six months ahead."¹¹⁶

The president's wishes had not disturbed the organization's priorities and previously established program of action.¹¹⁷ In time, Kennedy had his way. The missiles were withdrawn and replaced early in 1963, not by the mirage of a multilateral force but by the missiles carried in an American Polaris submarine on patrol in the Mediterranean Sea. Long before the grinding of the machinery in Washington had led to actual withdrawal of missiles in Turkey, the problem itself had been defused by events. On Sunday morning, October 28, in another urgent message broadcast over the radio, the Soviet leaders announced that they would withdraw their missiles from Cuba.

NOTES

1. Jupiter missiles were also deployed to Italy; even older model Thor missiles had already been sent to Great Britain, where neither the Americans nor the British had much further use for them. For some background, see Philip Nash, *The Other Missiles of October: Eisenhower, Kennedy, and the Jupiters 1957–1963* (Chapel Hill: University of North Carolina Press, 1997).
2. The following discussion is from Ernest R. May & Philip D. Zelikow, *The Kennedy Tapes: Inside the White House During the Cuban Missile Crisis* (Cambridge: Harvard University Press, 1997), pp. 222–23.
3. The message was sent from Taylor to the U.S. Commander-in-Chief in Europe, General Lauris Norstad. JCS 6866, quoted in May & Zelikow, *The Kennedy Tapes*, p. 223 n.16.
4. See the series of orders issued by the Joint Chiefs of Staff to CINCEUR, CINCLANT, and CINCSAC in December 1959, declassified and published by the National Security Archive in a microfiche collection edited by William Burr, *U.S. Nuclear History: Nuclear Weapons and Politics in the Missile Era, 1955–1968* (Alexandria: Chadwyck-Healey, 1998). For background, see also Bruce G. Blair, *The Logic of Accidental Nuclear War* (Washington, DC: Brookings Institution, 1993); and Peter Feaver, *Guarding the Guardians: Civilian Control of Nuclear Weapons in the United States* (Ithaca: Cornell University Press, 1992). For U.S. forces defending the U.S., a third predelegation scenario may have been included in Eisenhower's orders for other cases of attack on the U.S. or U.S. forces, but the declassified fragments leave the matter unclear.
5. Bundy to President Kennedy, "Politics previously approved in NSC which need review," 30 January 1961, in *FRUS 1961–1963*, vol. 8, *National Security Policy* (Washington, DC: Department of State, 1994), p. 18. The NATO document "confirmed" at Athens was Document C-M(62)48. See State 1920, "Summary of NATO Meeting in Athens," 9 May 1962 and National Security Action Memorandum No. 147, "NATO Nuclear Program," 18 April 1962 with attached State/Defense paper, "Suggested NATO Nuclear Program," 22 March 1962, all in *FRUS 1961–1963*, vol. 13, *West Europe and Canada* (Washington: Department of State, 1994), pp. 389, 391–92, 384, and 387. The quoted guidelines are those recommended for a hypothetical NATO multilateral MRBM force, which were congruent with the NATO nuclear guidelines being proposed for general adoption at the Athens meeting. See the evidence from British and German sources in Stephen Twigge and Len Scott, *Fail Deadly: Britain and the Command and Control of Nuclear Forces 1945–1964*, Nuclear History Program Project Report, Aberystwyth, July 1997, pp. 244–51.
6. Scott D. Sagan, *The Limits of Safety: Organizations, Accidents, and Nuclear Weapons* (Princeton: Princeton University Press, 1993), p. 104. "Failsafe" procedures meant the aircraft would fly toward their targets up to a point at which they would then either receive a recall order or a go code to attack their targets. The procedure looks safer on paper than it would be in practice, especially given the fragility of communications in 1962, particu-

- larly for aircraft dispersed at bases as remote as those in Turkey which could even be under conventional attack. The inability to communicate with base, where such inability was believed to be caused by enemy attack, was another contingency in which aircraft commanders (under U.S., not NATO procedures) may have had predelegated authority to use nuclear weapons. Since such contingencies tended to be described imprecisely (partly to avoid a clear point at which presidential authority was lost) the result, as Bruce Blair pointed out, is that "military commanders [in this period, at least] probably operated under significant ambiguity of authority. . . . How might the uncertainty be resolved in the absence of formal guidance? What has been called institutional ethos—the attitudes, traditions, and beliefs prevalent in military organizations—would arguably have the most systematic effect on behavior." Bruce G. Blair, *Strategic Command and Control: Redefining the Nuclear Threat* (Washington, DC: Brookings Institution, 1985), pp. 122–23.
7. Lt. Col. Robert Melgard to Scott Sagan, quoted in Sagan, *The Limits of Safety*, p. 110.
 8. *Ibid.*, p. 102.
 9. Kennedy chose, as a result, to keep Norstad at his post during the crisis and overruled a previous schedule for replacing him. See McCone to File, "Executive Committee Meeting on 23 October 1962, 6:00 p.m.," in *CIA Documents on the Cuban Missile Crisis*, ed. Mary S. McAuliffe (Washington, DC: CIA History Staff, 1992), p. 291.
 10. This happened even though Norstad had privately cabled JCS chairman Taylor asking Taylor, specifically, to make sure that the individual services (Army, Navy, or Air Force) did *not* give any different alert instructions to their component commanders in Europe. Sagan, *The Limits of Safety*, pp. 102–03; see also U.S. ambassador to NATO Thomas Finletter's report, Paris 1907, 22 October 1962, in Record Group 59, National Archives.
 11. The fears induced by the missile crisis led McNamara and Bundy to harden their attitudes about predelegation of nuclear use authority, to the point of opposing any predelegation whatsoever. See, e.g., Memcon, "State-Defense Meeting on Group I, II, and IV Papers," 26 January 1963, in the National Security Archive microfiche collection, Burr, ed., *U.S. Nuclear History: Nuclear Weapons and Politics in the Missile Era, 1955–1968*.
 12. These sources include Alexander Fursenko and Timothy Naftali, "One Hell of a Gamble": *Khrushchev, Castro and Kennedy 1958–1964* (New York: W.W. Norton, 1997); Anatoli I. Gribkov, "The View from Moscow and Havana," in Anatoli Gribkov & William Y. Smith, *Operation ANADYR: U.S. and Soviet Generals Recount the Cuban Missile Crisis* (Chicago: Edition q, 1994); various CIA estimates, many reprinted in *CIA Documents on the Cuban Missile Crisis*; U.S. Congress, House Appropriations Committee, Subcommittee on Department of Defense Appropriations, *Hearings*, 88th Cong., 1st sess., 1963 (hereinafter referred to as *DOD Hearings*); Department of Defense, *Special Cuba Briefing*, February 6, 1963; U.S. Congress, Senate Armed Services Committee, Preparedness Investigating Subcommittee, *Interim Report on Cuban Military Buildup*, 88th Cong., 1st sess., 1963 (hereinafter referred to as *Cuban Military Buildup*). The following account is reconstructed from the preceding sources. Additional references are made where central facts or major pieces of information depend on other sources.
 13. On the April 1962 Presidium decision on defensive military aid to Cuba, see Fursenko and Naftali, "One Hell of a Gamble," pp. 158–70. On the subsequent May 1962 decision to dispatch ballistic missiles, see *ibid.*, pp. 170–81 and the discussion in Chapter Two.
 14. *Cuban Military Buildup*, pp. 5 ff.; see also Roger Hilsman in *Briefing*.
 15. The key precrisis public statement is the Soviet government press release of September 11, 1962, reprinted in David L. Larson, ed., *The "Cuban Crisis" of 1962: Selected Documents, Chronology and Bibliography 2d ed.* (Lanham: University Press of America, 1986), with the quoted material on p. 25.
 16. Fursenko and Naftali say there were 45 warheads delivered for the MRBMs (though why there were 45 warheads for 36 missiles is unclear). Gribkov states there were 80 warheads for the Sopka missiles; Fursenko and Naftali say there were only 36. Compare Gribkov, "The View from Moscow and Havana," pp. 45–46 with Fursenko and Naftali, "One Hell of a Gamble," pp. 213, 217. Fursenko and Naftali indicate that the MRBM warheads each had a yield equivalent to one million tons of TNT; U.S. intelligence sources thought the warheads for these missiles had a yield of 2 or 3 megatons.
 17. Fursenko and Naftali, "One Hell of a Gamble," p. 213 (citing a September 25 memo to the Presidium from Chief of the General Staff Marshal Zakharov and Chief of Naval Operations Admiral Fokin).
 18. The deployment of H-class [NATO designation Hotel] ballistic missile submarines was replaced, however, by a deployment of four F-class [Foxtrot] attack submarines, each carrying one nuclear-armed torpedo with its conventional armaments. Fursenko and Naftali, "One Hell of a Gamble," pp. 213–14. The diesel submarines departed for Cuba on October 1 and were approaching Cuba when the blockade began. They were then the target of intense antisubmarine tracking by U.S. warships that eventually forced them to surface under American scrutiny. For the reference to evidence of planning for a deployment area in eastern Cuba (the known MRBM and IRBM sites were all on western and central portions of the island) see CIA, "Deployment and Withdrawal of Soviet Missiles and Other Significant Weapons in Cuba," 29 November 1962, in *CIA Documents on the Cuban Missile Crisis*, p. 357. This estimate turns out to have been remarkably accurate in its tracking of major Soviet military hardware.
 19. For the numbers of IL-28s, see CIA memo, "Deployment and Withdrawal," on p. 360. The Soviet sources tend to give lower numbers, and it is possible that some crates might have contained different types of aircraft. On Khrushchev's decision to send nuclear bombs for them after the White House warning of September 4, see especially Fursenko and Naftali, "One Hell of a

- Gamble*," pp. 209–12; see also *DOD Hearings*, pp. 6, 15–16; *Cuban Military Buildup*, p. 7.
20. Raymond Garthoff asserts that the FROGs were routinely deployed as conventional weapons, being nuclear-capable only in the sense of practically all rocket and artillery systems, and that no nuclear weapons were dispatched for the FROGs in Cuba. Raymond L. Garthoff, *Reflections on the Cuban Missile Crisis* rev. ed. (Washington, DC: Brookings Institution, 1989), p. 38 n. 64. There is now no doubt, however, that the FROGs were sent to Cuba with nuclear weapons.
 - In fact, the FROGs were so inaccurate as to be practically worthless for delivery of conventional munitions. The best inference from observed Soviet military behavior is that the FROGs were seen as useful or cost-effective only in the role of battlefield nuclear systems, attached to Soviet ground forces at the level of divisional headquarters. Since their use was apparently under special control, the FROGs were not usually observed in the field with other artillery but were kept back in barracks. Intelligence analysts watching the Soviet invasion of Afghanistan in 1979 noticed that FROGs accompanied some of the first Soviet divisions sent into that country. A few days later, the Soviet high command apparently realized its error, because the FROGs were immediately detached from the divisions and sent back to the USSR. Zelikow interview with retired CIA official Douglas MacEachin, February 10, 1998. Since the FROGs were so inaccurate and took so long to fire and reload, few observers, American or Soviet, would have thought that a mere 12 such rockets would have had value in Cuba as conventional artillery. After the FROGs were identified by a low-level reconnaissance flight on October 25, the Pentagon promptly assumed that the FROGs were nuclear-armed and began revising plans for an attack on Cuba accordingly. The Group of Soviet Forces for Cuba deployed to Cuba had no divisional headquarters and there is no evidence that FROGs were considered an appropriate complement to the Group of Forces until Khrushchev asked for additional nuclear defense options in September.
 21. Amron Katz, *The Soviets and the U-2 Photos—An Heuristic Argument*, RM-3584-PR (Santa Monica: Rand Corporation, 1963), p. v.
 22. Fursenko and Naftali, "One Hell of a Gamble," pp. 191–92; Gribkov, "The View from Moscow and Havana," p. 28. Signals intelligence from the National Security Agency (NSA) detected radar emissions for the SAMs on September 15 and evidence of a complete air defense network on October 9. See the declassified documents available from NSA. For the Sorensen quote, see Theodore C. Sorensen, *Kennedy* (New York: Harper and Row, 1965), p. 673 (emphasis added).
 23. Dino A. Brugioni, *Eyeball to Eyeball: The Inside Story of the Cuban Missile Crisis*, ed. Robert McCort updated ed. (New York: Random House, 1991), pp. 204–05.
 24. Robert F. Kennedy, *Thirteen Days: A Memoir of the Cuban Missile Crisis* (New York: W.W. Norton, 1969), p. 58.
 25. Albert and Roberta Wohlstetter, *Controlling the Risks in Cuba*, Adelphi Papers (London: International Institute for Strategic Studies, 1965), p. 12; *DOD Hearings*, p. 6.
 26. May and Zelikow, *The Kennedy Tapes*, p. 79; *Cuban Military Buildup*, p. 11; *DOD Hearings*, pp. 44–46.
 27. Though the title claims too much for Penkovsky and too little for American satellites, see Jerrold I. Schechter and Peter S. Deriabin, *The Spy Who Saved the World: How a Soviet Colonel Changed the Course of the Cold War* (New York: Charles Scribner's Sons, 1992).
 28. Quoted in Fursenko and Naftali, "One Hell of a Gamble," p. 182.
 29. *Cuban Military Buildup*, p. 6.
 30. *DOD Hearings*, p. 23.
 31. Kennedy, *Thirteen Days*, p. 59.
 32. Kennedy had his own experience of receiving such an ill-analyzed assurance. Before approving the Bay of Pigs invasion by CIA-trained Cuban exiles in 1961, Kennedy had been told that, if defeated, the invaders could "melt away" and become guerrillas in the mountains, but the mountains were 80 miles away from the landing site, separated by swamps. See Arthur M. Schlesinger, Jr., *A Thousand Days: John F. Kennedy in the White House* (New York: Houghton Mifflin, 1965), p. 234.
 33. For a summary by one of the General Staff planners, see Gribkov, "The View from Moscow and Havana," pp. 23–38.
 34. *Ibid.*, p. 39.
 35. *Ibid.*
 36. Brugioni, *Eyeball to Eyeball*, p. 437. Kennedy to McCone in the Oval Office on October 26, in May and Zelikow, *The Kennedy Tapes*, p. 473.
 37. Gribkov, "The View from Moscow and Havana," p. 58.
 38. Fursenko and Naftali, "One Hell of a Gamble," pp. 192–94, also noting that Khrushchev's concern may have been provoked by the worries of the Soviet military representative in Cuba, A.A. Dementyev, who had expressed concern about the U-2s to Defense Minister Malinovsky before the Presidium decision and who was in Moscow in early July, near the time of Khrushchev's order to put the SAMs in place first.
 39. Gribkov, "The View from Moscow and Havana," p. 28.
 40. Gromyko's cabled report, 19 October 1962, reprinted in "Russian Foreign Ministry Documents on the Cuban Missile Crisis," *CWIHP Bulletin*, no. 5 (Spring 1995), pp. 66–67.
 41. Fursenko and Naftali, "One Hell of a Gamble," pp. 237–38, 242.
 42. Gribkov had his own special channel for sending reports back to Moscow, reports that Pliyev was not allowed to read. "The View from Moscow and Havana," pp. 57–58.
 43. Fursenko and Naftali, "One Hell of a Gamble," pp. 241–43; Mark Kramer, "Lessons of the Cuban Missile Crisis for Warsaw Pact Nuclear Operations," *Cold War International History Project Bulletin*, Issues 8–9 (Winter 1996–97), pp. 348–49.

44. Gribkov, "The View from Moscow and Havana," p. 63.
45. General William Y. Smith, "The View from Washington," in Gribkov and Smith, *Operation ANADYR*, p. 141. In October 1962, Smith was a major on the staff of JCS chairman Maxwell Taylor.
46. Fursenko and Naftali, "One Hell of a Gamble," p. 241.
47. Gribkov, "The View from Moscow and Havana," p. 28.
48. See Kramer, "Lessons of the Cuban Missile Crisis for Warsaw Pact Nuclear Operations."
49. Sagan, *The Limits of Safety*, p. 62.
50. Ibid.
51. The speech is reprinted in many sources, including Larson, *The "Cuban Crisis" of 1962*, pp. 59–63.
52. *DOD Hearings*, pp. 25 ff.
53. The best summary of overall gathering of intelligence on Soviet arms deliveries to Cuba is Brugioni, *Eyeball to Eyeball*, pp. 148–65. On shipping intelligence and cratology, see *ibid.*, pp. 72–73.
54. See Richard Lehman to McCone, "CIA Handling of the Soviet Buildup in Cuba," 14 November 1962, in McAuliffe, *CIA Documents on the Cuban Missile Crisis*, pp. 99–101.
55. The reports are reprinted in *CIA Documents on the Cuban Missile Crisis*, pp. 107–09.
56. For copies of the reports see *ibid.*, pp. 103–05; see also Brugioni, *Eyeball to Eyeball*, pp. 164–65.
57. This fusion required convergence of the discovery of new plastics that enabled production of far thinner film and machines to process it; new kinds of lenses; new computer-driven methods for grinding and polishing such lenses; and new cameras which could automatically rotate a lens barrel to take panoramic pictures. Brugioni, *Eyeball to Eyeball*, pp. 14–15.
58. James R. Killian, *Sputnik, Scientists, and Eisenhower: A Memoir of the First Special Assistant to the President for Science and Technology* (Cambridge: MIT Press, 1977), p. 82.
59. Richard M. Bissell, Jr., with Jonathan E. Lewis and Frances T. Pudlo, *Reflections of a Cold Warrior: From Yalta to the Bay of Pigs* (New Haven: Yale University Press, 1996), pp. 106, 108–09.
60. *Ibid.*, pp. 131–40. The aircraft was the A-12, better known in its military designation as the SR-71. Its first official flight was in 1962. Bissell was rewarded in 1959 by becoming head of the CIA's clandestine service, responsible for covert operations. The Bay of Pigs disaster effectively ended this area of responsibility. In 1962, Bissell, who had also kept control of CIA technical collection projects, was offered a job concentrating exclusively on this portfolio. But McCone was determined to separate technical collection from the clandestine service and, amid disagreements about how to restructure the CIA to do this, Bissell refused the offer and resigned from government. The new head of CIA Research became Herbert "Pete" Scoville. Jeffrey T. Richelson, "The Wizards of Langley: The CIA's Directorate of Science and Technology," *Intelligence and National Security* 12 (January 1997): 82, 84–85.
61. See Brugioni, *Eyeball to Eyeball*, pp. 20–27.
62. May and Zelikow, *The Kennedy Tapes*, p. 122.
63. Lehman to McCone, "CIA Handling of the Soviet Buildup," at p. 101.
64. See the briefing paper by Col. John Wright, of the Defense Intelligence Agency, "Analysis of SAM Sites," 1 October 1962, in *FRUS 1961–1963*, vol. 11, *Cuba 1962–1963*, pp. 1–2.
65. May and Zelikow, *The Kennedy Tapes*, p. 230.
66. National Security Action Memorandum 181, 23 August 1962, in *FRUS 1961–1963*, vol. 10, pp. 957–58.
67. Unless otherwise cited, discussion of TAC preparations relies heavily on the private, unpublished research work of former RAND Corporation researcher Merritt W. Olsen, who discussed TAC's performance in the Cuban missile crisis with many of its staff officers and sent his findings to Allison in January 1978. Available Defense Department records confirm Olsen's account.
68. See Gilpatric to President Kennedy, "Cuba," 1 September 1962 (with attached analysis prepared by the Air Staff); Harris to McNamara, "Air Defense in Southeast US Area," 4 September 1962; Special National Intelligence Estimate, "The Military Buildup in Cuba," SNIE 85-3-62, 19 September 1962 (reporting the MiG-21s); President Kennedy to McNamara, 21 September 1962; McNamara to Taylor, 2 October 1962; and McNamara to President Kennedy, 4 October 1962, in *FRUS 1961–1963*, vol. 10, pp. 1010–12, 1036–37, 1075, and 1081 and *FRUS 1961–1963*, vol. 11, pp. 6–7, 10–11.
69. McCone to File, 5 October 1962 (on conversation with Bundy that day), in *ibid.*, p. 15.
70. Olsen letter to Allison, p. 13.
71. On the MiGs, see McCone, in May and Zelikow, *The Kennedy Tapes*, p. 374. For Taylor's comment, see Notes taken from Transcripts of Meetings of the Joint Chiefs of Staff, October–November 1962, p. 6, in National Security Archive, Washington, DC.
72. As McNamara explained to his curious president, the military would knock out the sites by sending in planes against the Soviet SAM sites at low level, below the effective range of the air defense missiles. The planes would then be vulnerable not to the missiles, but to antiaircraft artillery (Cuban and Soviet) deployed to defend the sites, so a strike must also allocate other aircraft to suppress the defending artillery positions.
73. On the meeting with Sweeney the most thorough notes are those of McNamara, reprinted in Laurence Chang and Peter Kornbluh, eds., *The Cuban Missile Crisis, 1962: A National Security Archive Documents Reader* (New York: New Press, 1992), pp. 144–45. For Sorensen's comment, see Sorensen, *Kennedy*, p. 684.

74. Dean Acheson, "Homage to Plain Dumb Luck," in *The Cuban Missile Crisis*, ed. Robert Divine (Chicago: Quadrangle Books, 1971), p. 189. Such complaints and suspicions are reflected in the original edition of Allison, *Essence of Decision*, pp. 125, 204–05.
75. May and Zelikow, *The Kennedy Tapes*, p. 403. See original edition of *Essence*, p. 126, a principal source for which was William Kaufman, an MIT professor who served as a consultant to the Office of the Secretary of Defense during the crisis. This account was reconfirmed with Kaufman in an interview with Allison on 10 November, 1998.
76. *Ibid.*, p. 612.
77. The blockade idea was already being discussed by Kennedy's opponents on Capitol Hill, as a way of responding to the flow of Soviet conventional arms to Cuba. McNamara had alerted the Navy to the possible need for a blockade at the beginning of October.
78. See generally the declassified *CINCLANT Historical Account of the Cuban Missile Crisis*, 29 April 1963, Operational Archives, Naval Historical Center, Washington, DC.
79. Sorensen, *Kennedy*, p. 710.
80. *Ibid.*, p. 708.
81. Minutes of the 506th Meeting of the National Security Council, 21 October 1962, in *FRUS 1961–1963*, vol. 11, *Cuban Missile Crisis and Aftermath*, p. 146.
82. *Ibid.*, p. 147. There was also discussion about how to block aircraft flights to Cuba. Given the difficulty in doing this, the informal expedient was adopted of arranging to have Soviet flights stopped, or at least delayed and searched, in the countries where the planes had to stop and refuel—Canada, Senegal, and Guinea. The Canadian and French governments offered quiet assistance. This assistance is discussed both in some of the CIA documents in McAuliffe, *CIA Documents on the Cuban Missile Crisis*; and in Gribkov, "The View from Moscow and Havana," p. 50.
83. See May and Zelikow, *The Kennedy Tapes*, pp. 294, 328. The Americans judged the combat radius, or range, of an IL-28 to be 740 nautical miles; the range for the MiG aircraft was presumed to be about 450 nautical miles (with external fuel tanks). McNamara in *ibid.*, p. 328.
84. *Ibid.*, p. 333.
85. *Ibid.*, pp. 335–36.
86. *Ibid.*, p. 336.
87. On the Kennedy–Ormsby–Gore discussion, see the reports of two eyewitnesses: Robert Kennedy, *Thirteen Days*, pp. 66–67; and Ormsby–Gore's reports to London, Washington 2662 and Washington 2664, both sent on 24 October 1962, in Public Record Office, PREM 11/3690, 24020.
88. McCone briefed the Executive Committee of the National Security Council on the Soviet radio contact (though he did not know the contents) shortly after 10:00 A.M. on October 24. May and Zelikow, *The Kennedy Tapes*, p. 348.

89. Kennedy said: "It seems to me we want to give that ship a chance to turn around. You don't want to have word going out from Moscow: 'Turn around,' and we suddenly sink out a ship." *Ibid.*, p. 361.
90. McNamara's explanation is from *ibid.*, pp. 354–55. Robert Kennedy's handwritten notes on the meeting, found in the Robert Kennedy Papers, are quoted in Arthur Schlesinger, Jr., *Robert Kennedy and His Times* (New York: Random House, 1978), p. 514. See also the more elaborate reconstruction five years later in Kennedy, *Thirteen Days*, pp. 69–70.
91. May and Zelikow, *The Kennedy Tapes*, p. 355.
92. *Ibid.*, pp. 355–56.
93. *Ibid.*, pp. 356–57. In fact, the Navy had stationed Russian-speaking officers on each ship, a feat possible only because a few prescient officers had earlier devised a contingency plan to identify and rapidly transfer the needed officers.
94. Brugioni, *Eyeball to Eyeball*, pp. 400–01; 415–17.
95. Khrushchev to Kennedy, 28 October 1962, in Larson, *The "Cuban Crisis" of 1962*, pp. 189–92.
96. Kennedy to Khrushchev, 23 October 1962, in *ibid.*, pp. 68–69 (emphasis added).
97. Khrushchev to Kennedy, 27 October 1962, in *ibid.*, pp. 183–84 (emphasis added).
98. Kennedy to Khrushchev, 28 October 1962, in *ibid.*, p. 194 (emphasis added).
99. Khrushchev to Kennedy, 26 October 1962, in *ibid.*, p. 176.
100. U.S. Congress, House Armed Services Committee, *Hearings on Military Posture*, 88th Cong., 1st sess., January 1963, p. 897.
101. See William W. Kauffman, *The McNamara Strategy* (New York: Harper & Row, 1964), p. 271.
102. May and Zelikow, *The Kennedy Tapes*, p. 444. In 1962, all nations recognized a territorial limit of 3 miles from shore. Many nations were already extending this traditional norm to claim a 12-mile limit. So if Cuba asserted a 12-mile limit it would have a plausible defense for this argument, given the evolving state of the relevant international law.
103. Sagan, *The Limits of Safety*, pp. 73–77.
104. *Ibid.*, pp. 130–31.
105. *Ibid.*, p. 137 n.47.
106. May and Zelikow, *The Kennedy Tapes*, pp. 495, 501.
107. Oleg Troyanovsky, "The Caribbean Crisis: A View from the Kremlin," *International Affairs* [Moscow], April–May 1992, p. 153.
108. Sagan, *The Limits of Safety*, pp. 135, 137.
109. Khrushchev to Kennedy, 28 October 1962, in Larson, *The "Cuban Crisis" of 1962*, p. 192.
110. Roger Hilsman, *To Move a Nation: The Politics of Foreign Policy in the Administration of John F. Kennedy* (Garden City: Doubleday, 1967), p. 221.
111. Sagan, *The Limits of Safety*, p. 138.

112. May and Zelikow, *The Kennedy Tapes*, pp. 570–72.
113. See Tyler, Rostow, and Talbot to Rusk, “Cuba,” 24 October 1962, Cuban Missile Crisis Files, 1992 Releases Box, National Security Archive, Washington, DC.
114. The most important of these was the thoughtful response from Ambassador Raymond Hare, in Turkey, that had begun arriving the previous day and was continuing to come in during the day on October 27. (Longer cables were transmitted in “sections,” each of which would arrive separately; then the whole message could be assembled. Many scholars have noticed the first section of Hare’s cable; few have commented on the subsequent sections that arrived and were read on the 27th.) See Ankara 587, 26 October 1962, National Security Files, Box 226, NATO-Weapons-Cables-Turkey, JFK Library.
115. May and Zelikow, *The Kennedy Tapes*, pp. 498–99.
116. *Ibid.*, pp. 659–60. This episode was apparently misunderstood, including by Robert Kennedy, and conflated with other circumstances surrounding the Jupiters in 1961 and 1962, to produce the belief that Kennedy had ordered the withdrawal of the Jupiters, and was angry that his orders were disobeyed.

The Jupiter deployment decision was made in the Eisenhower administration, as one of the responses to Sputnik and the Soviet advantage in ballistic missiles that could be aimed at Europe. (No one then had fielded ballistic missiles with intercontinental range.) As the American ICBM program grew and the obsolescence of the Jupiters became apparent, Kennedy had ordered the Jupiter decision reviewed in the spring of 1961 with the White House and Pentagon clearly moving toward removal. But the Turks objected and then Khrushchev challenged Kennedy in Vienna, so in the summer of 1961 Kennedy allowed the deployment to proceed. All missiles were actually deployed in Turkey by March 5, 1962. Though some scholars have attached disproportionate importance to a military ceremony formally turning over operational control of the missiles (not the warheads) to the Turks during the crisis in October 1962, there is no evidence that any official—U.S. or Soviet—noticed this little ceremony at the time. All thought the missiles had long been operational in fact, and this was true. In August 1962, worried that Khrushchev might attempt to use the Jupiters as an excuse for sending missiles to Cuba, Kennedy ordered the Defense Department to do another study of “what action can be taken to get Jupiter missiles out of Turkey?” National Security Action Memorandum 181, 23 August 1962, in *FRUS 1961–1963*, vol. 10, p. 957. This idea then bogged down in the morass of State’s plan for replacing all these older missiles in Europe with their envisioned multilateral nuclear force. Kennedy understood this and, as the next note indicates, had little use for State’s scheme. The tapes show no evidence that Kennedy, himself, ever thought he had actually ordered the withdrawal of the Jupiters. But those close to him,

- remembering his anger over this episode, may understandably have forgotten and garbled the more complex story.
117. Kennedy had also tried to disrupt State’s multilateral force plans on Saturday, October 20, when he ordered that the French be offered a program of U.S. nuclear assistance. He repeated the directive on October 21. A bit preoccupied with the crisis, he did not follow that up. The State Department smothered the idea. See May and Zelikow, *The Kennedy Tapes*, p. 199 n.13, p. 201 n.14, p. 212 n.8.